Operating instructions

english
for

TELE-SERVICE Analogue
TELE-SERVICE ISDN
TELE-SERVICE GSM

Version 2.5

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1 TELE-SERVICE Analogue / ISDN / GSM

1.1 Functional Description

The TELE-SERVICE connects the programming device or PC over the serial Interface (COM-Port) or by USB-Port or by Modem to the PC over an analogue telephone line with the MPI- or MPI- or Profibus-Connector of the S7-300/400 PLC. The TELE-SERVICE selects automatically on the first access over the serial port which Baud rate is used. On the MPI-Side you could use Baud rates from 19k2 up to 12MBaud.

The TELE-SERVICE has uses an external Power-Supply with 24V DC or the Power-Supply of the MPI/Profibus-connector. It is possible to install the TELE-SERVICE in a rack.

1.2 Telephone-connection / communication-types

There are the following telephone-connection and communication-types possible:

		TeleService		
		Analogue	ISDN	GSM
PG/PC-Modem	Analogue	YES	NO	YES
	ISDN	YES, if analogue-emulation is provided (f.e. Fritz-Card)	YES	YES, if analogue-emulation is provided (f.e. Fritz-Card)
	GSM (f.e.M20-terminal)	YES	NO	YES

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1.3 TELE-SERVICE as TS-Adapter

The TS-possibility allows the connection of a modem, to make a connection with a 2nd Modem and a PC to a S7-300/400. The MPI-Modem must be connected to the analogue or ISDN-telephone line and the PLC .

To work with the MPI-Modem in his TS-function, you must make the following actions:

1) You need the TeleService-software from Siemens or the PG2000 with the option TeleService installed onto your PC to work with the MPI-Modem. The configuration of the MPI-Modem can be made with the TeleService-software from Siemens or with the "MPI-Kabel Manager".
2) On the PC side you need another modem.

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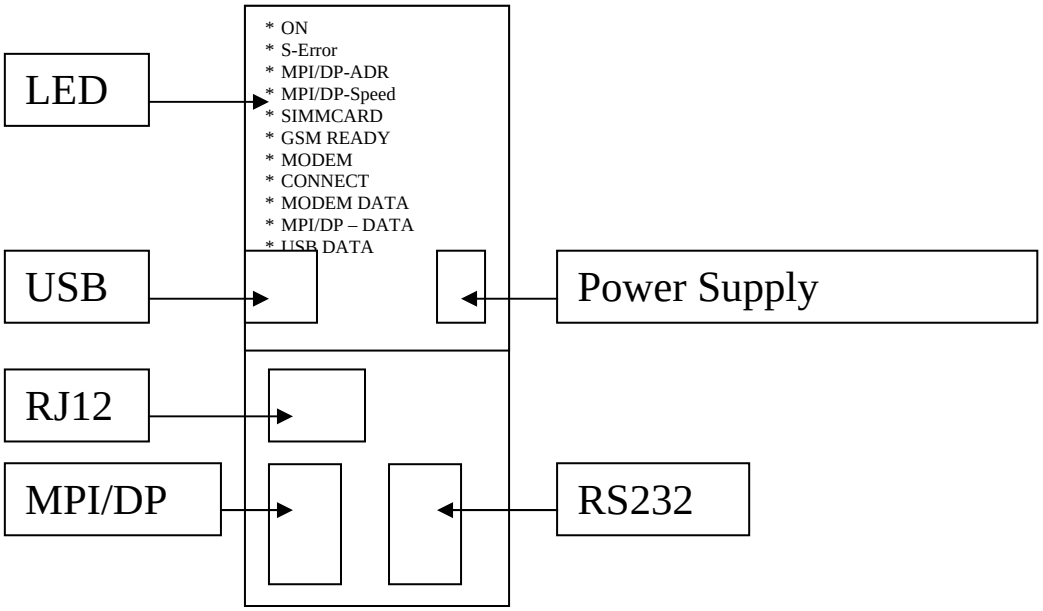
1.4 Pin assignment and LED



1.4.1 LED

LED	Color	Description
ON	Green	Power is on
Σ-ERROR	Red	An error has occurred
MPI/DP-ADR	Red	The configured local station-address is already in the bus
MPI/DP-SPEED	Red	The configured Baud rate in the MPI/DP Bus is wrong or transmitter errors
SIMMCARD	Red	PIN-Number of SIM-Card wrong or not configured
GSM READY	Yellow	OFF = no power on modem ON = no authentication on GSM flashing 200ms/2s = correct authentication on GSM flashing 200ms/600ms = communication on line
MODEM CONNECT	Yellow	Modem is connected
MODEM DATA	Yellow	Short flashes when sending/receiving data over the phone line
MPI/DP DATA	Yellow	Short flashes when sending/receiving data on the MPI/DP-Bus
USB DATA	Yellow	Short flashes when sending/receiving data on the USB-Port

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1.4.2 Pinning RS232 (PC-Side)

Pin No.	Notation	Description	Direction (of device)
1	DCD	Data Carrier Detect	Input
2	RXD	Received Data	Input
3	TXD	Transmitted Data	Output
4	DTR	Data Terminal Ready	Output
5	GND	Signal Ground	
6	DSR	Data Set Ready	Input
7	RTS	Request to Send	Output
8	CTS	Clear to Send	Input
9	RI	Ring Indicator	Input
Case		On connector casing	

The Connector has the same pinning as the serial COM-Port of a PC, for a connection you need a null-modem cable. It is possible to lengthen one end of the cable with a 1:1 Cable up to 15m. Use a good quality of the cable.

1.4.3 Nullmodemcable to the PC

To connect the PC directly with the serial Interface of the TeleService-Device you need a Nullmodem-Cable with the following pinning (especially for an access by PPIMultiMaster to a S7-22x)

PinNo TS		PinNo. PC	Description
1		7 8	Data Carrier Detect
2		3	Received Data
3		2	Transmitted Data
4		6	Data Terminal Ready
5		5	Signal Ground
6		4	Data Set Ready
7		1	Request to Send
8			Clear to Send
9		9	Ring Indicator
Case		Case	On connector casing

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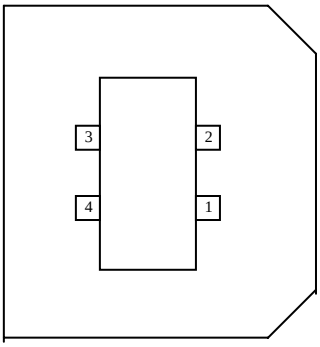
1.4.4 Pinning USB



Use a Type A (PC) to Type B (TELE-SERVICE) USB Standard-Cable (the same as for an USB - Printer).

Pin No.	Notation	Description	Direction (of device)
1	NC	Not connected	
2	D-	Data negative	In/Output
3	D+	Data positive	In/Output
4	GND	Signal Ground	

1.4.5 Pinning MPI (PLC-Side)

Pin No.	Notation	Description	Direction (of device)
1	NC	Not connected	
2	M24V	Signal Ground 24V	Input
3	Ltg_B	Data B	In/Output.
4	RTS-AS	Request to send from AS	Input
5	M5V	Signal Ground 5V	Input
6	P5V	5V Power Supply	Output
7	P24V	24V Power Supply	Input
8	Ltg_A	Data A	In/Output
9	RTS-PG	Request to send to AS	Output
Schirm		On connector casing	

The shield is attached with the MPI connector via the shield of the adapter casing. To find directly attended PLC´s , RTS-AS and M5V must be connected in the cable. P5V means a output of the cable and works only as an output for a bus-termination

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with resistors. This 5V output doesn't drive any load and have a 100R resistor inside his direction.

Attention:
Don't lengthen the connection by a 1:1 cable to the PLC, because there are 24V and 5V inside of the cable. The quality of the bus-signal will be risen down!

To lengthen the connection, please use a MPI-NETZ-Adapter and connect only the signals Ltg_A and Ltg_B 1:1 and the shield at both sides of the metal-casing at the SUB-D connector

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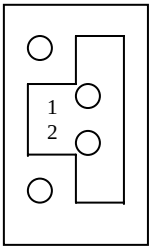
1.4.6 Power-Supply

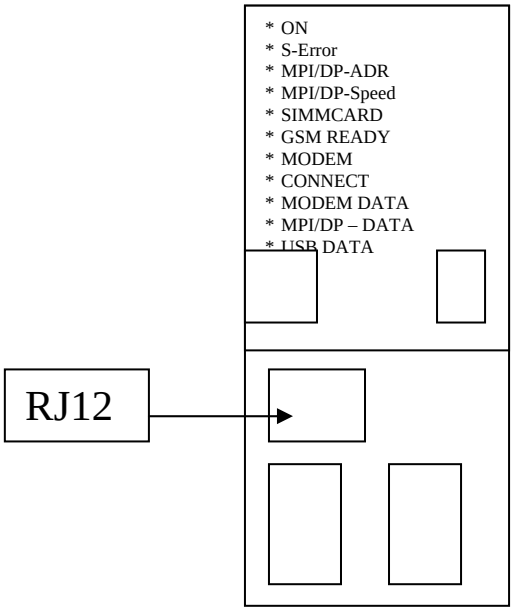


Pin No.	Notation	Description	Direction (of device)
1	P24V	Power Supply 24V DC	Input
2	GND	Signal ground	Input

Please keep in mind, that the **Earthening** is done over the **Back-plane**, on which the TeleService – Device is attached by **screws**.

1.4.7 Analogue Phone-Jack

Exists only at TELE-SERVICE Analog



Pin No.	Notation	Description	Direction (of device)
1	NC	Not connected	
2	NC	Not connected	
3	A	Line-A	Input
4	B	Line-B	Input
5	NC	Not connected	
6	NC	Not connected	

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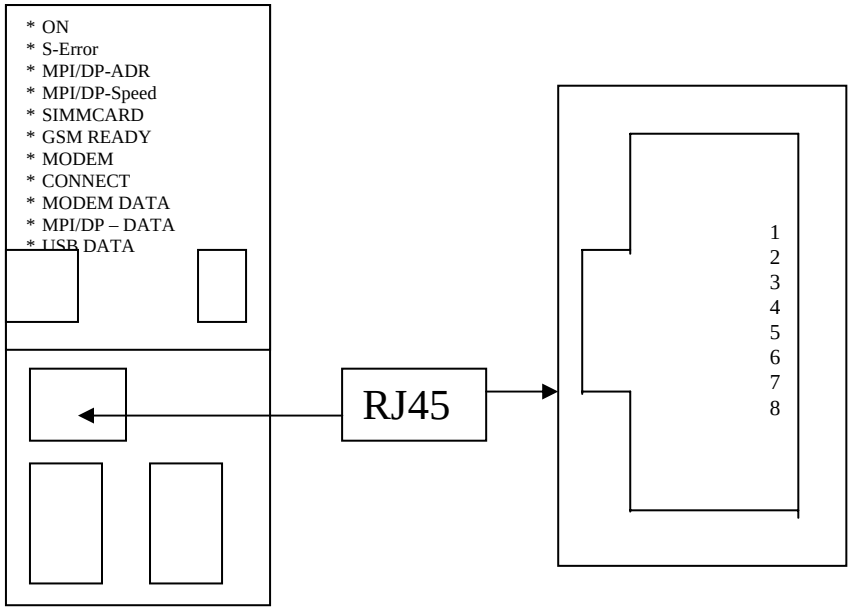
1.4.8 ISDN Phone-Jack

Exists only at TELE-SERVICE ISDN



Pin No.	Notation	Description	Direction (of device)
1	NC	Not connected	
2	NC	Not connected	
3	TX+	Transmitter positive	Output
4	RX+	Receiver positive	Input
5	RX-	Receiver negative	Input
6	TX-	Transmitter negative	Output
7	NC	Not connected	
8	NC	Not connected	

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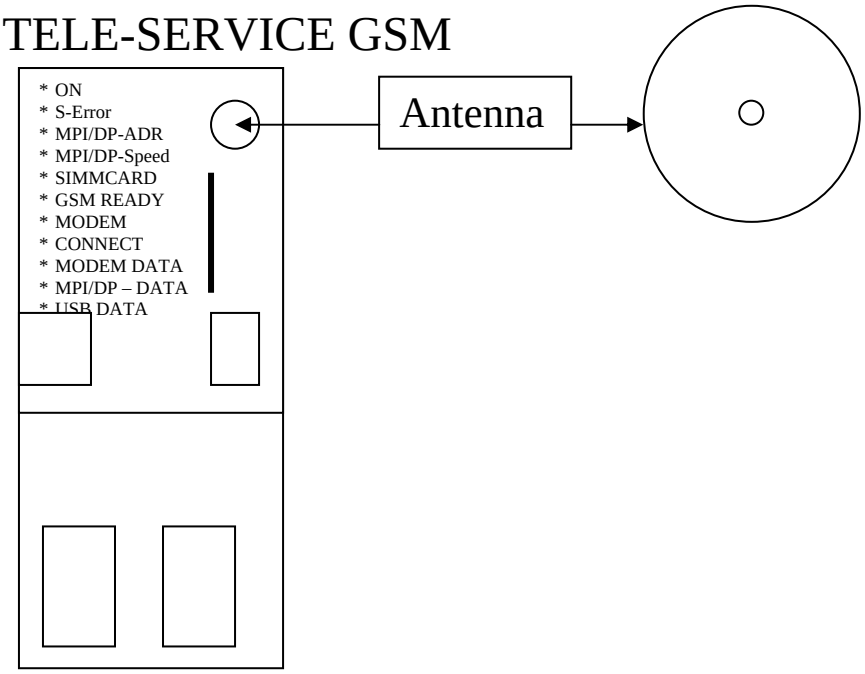
1.4.9 GSM Antenna-Jack

Exists only at TELE-SERVICE GSM



For Using the TELE-SERVICE GSM you need an antenna with female FME - Connector.

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1.5 Working with TELE-SERVICE GSM

A SIM-Card is needed to operate the TELE-SERVICE GSM which has the ability set for Data-Transfer. The SIM-Card is not freely accessible in the first series, so misuse or robbery is prevented. The newer TeleService Devices have a SIM-Card Slot.
The SIM-Card must use 3V-power-supply!

1.5.1 SIM-Card selection

For the choice of your SIM-Card you should notice, that the provider of your choice supports the Circuit Switched Data (CSD) Protocol and it is activated for your SIM-Card.

The activation of the CSD-Service for your SIM-Card can be made later on, too.

The CSD-Service needs an own phone-number. Therefore your SIM-Card will be referred to an additional phone-number through the activation.

1. phone-number: Number for incoming calls.
2. phone-number: Number for incoming data communication.

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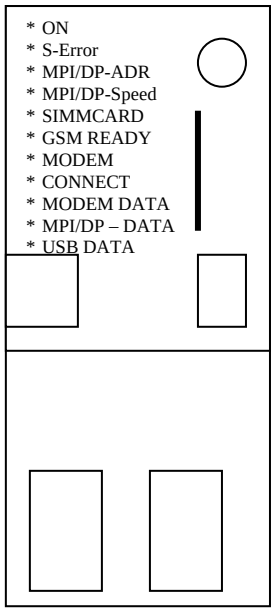
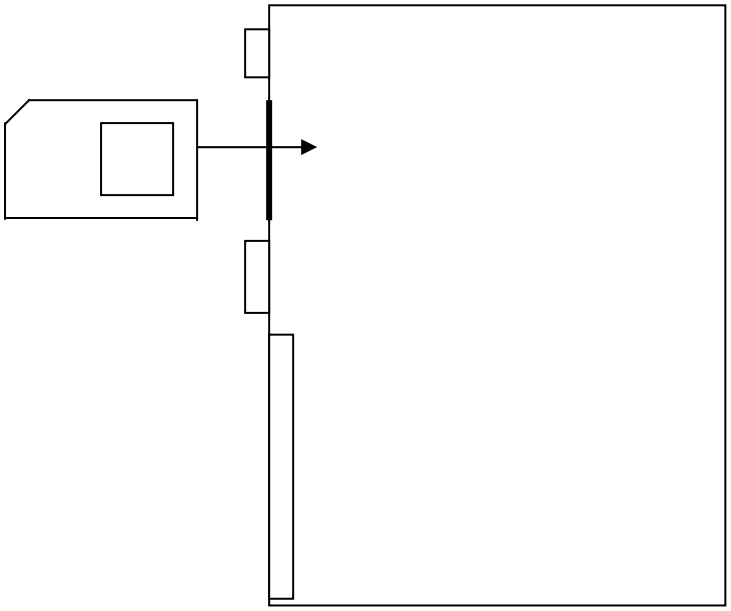
1.5.2 Inserting the SIM-Card (Only GSM)

Insert the SIM-Card with Gold-Cabs in the direction to the power supply and with the cutted edge to top into the SIM-Card Slot.

Top View



Right View



After inserting the SIM-Card will stay over about 2 mm

1.5.3 Inserting the SIM-Card (Only GSM HW 1.0)

Disconnect the TELE-SERVICE from the power-supply. Disconnect the MPI-BUS by descrewing (under the plate), after that the antenna at the FME-Connector. Open the Screw at the bottom of the TELE-SERVICE. Snap the Device to the top, out of the rack.

The Case has two sides which only be snapped together.

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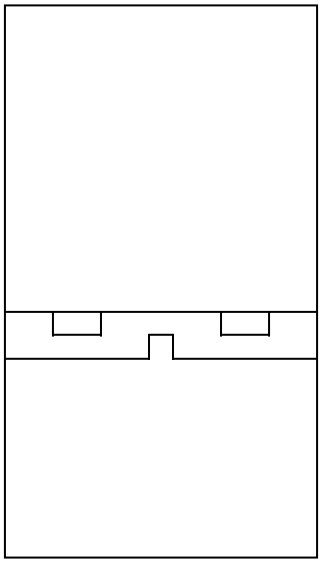
Drawing from the top:

Rack



Front-Side

In the middle you could press down a snap so you could open the case. Pull the two parts of the case out. The board is screwed at the front part of the case at the **MPI/DP** interface with 2 six edged-screws (5mm), remove them.

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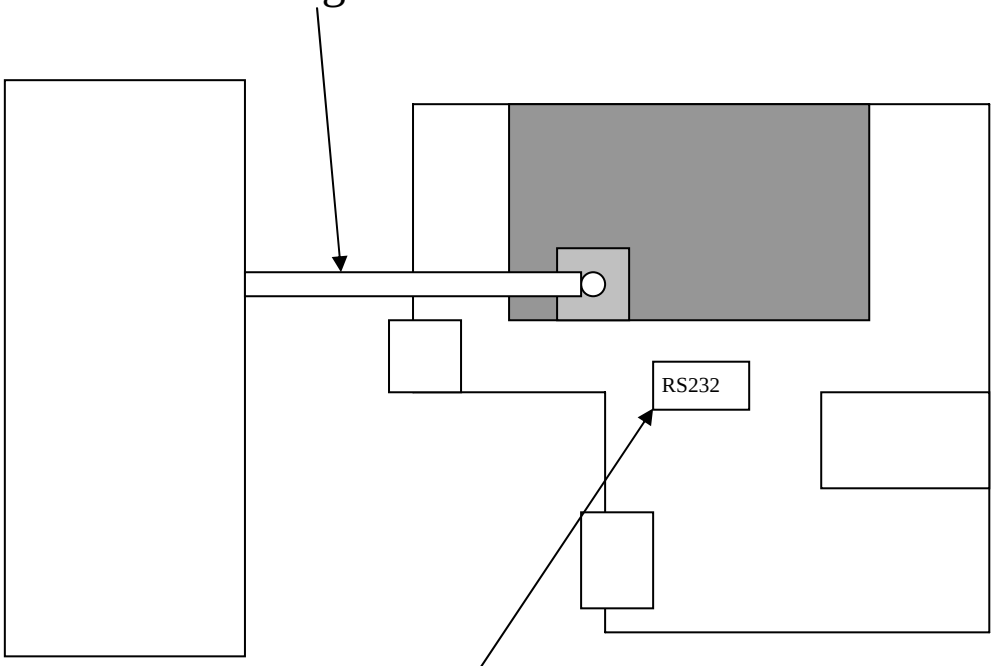
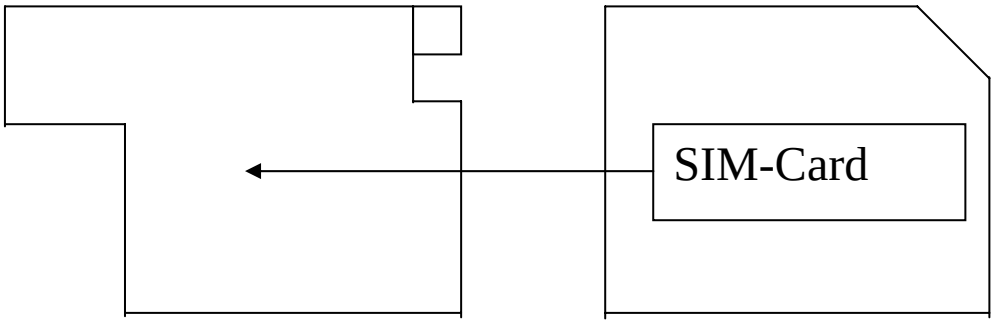
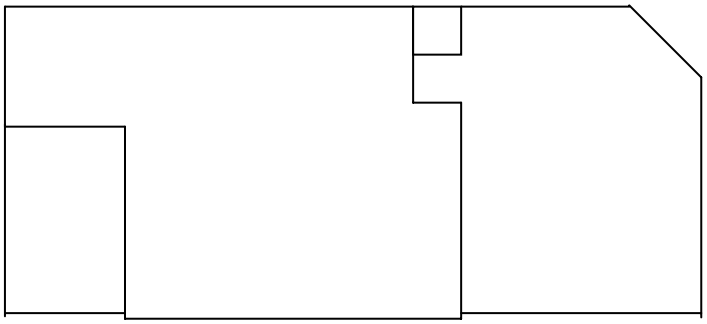
Pull the board out of the front case, pay attention not to disconnect or cutting the antenna.



Pull the antenna out of the medal case. Pull the connector for the RS232 out. Pull the medal case out of the board (UNSGSM). Turn the medal case round, on the right side there is the SIM-Card holder



Insert the SIM-Card with the gold-contacts facing down in the holder as shown above.



The SIM-Card must use 3V-power-supply!

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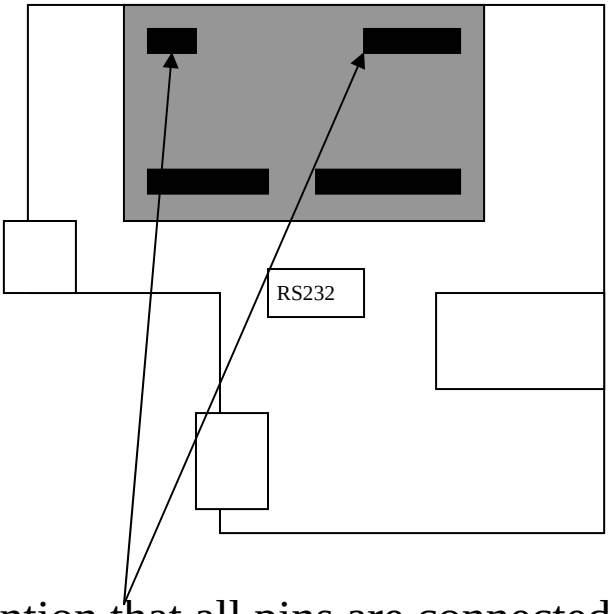
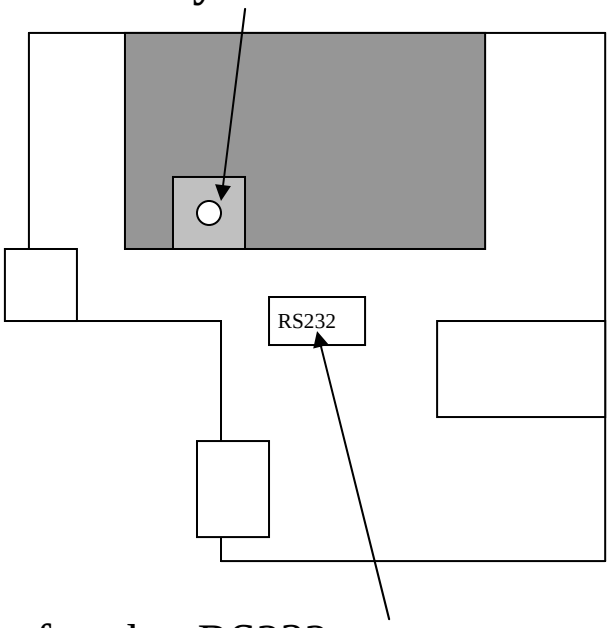
Turn the medal case around and insert it again onto the board:



Pay attention that all pins are connected on the top two lines correctly, after that reconnect the antenna.

ATTENTION: the PIN in the middle of the antenna is very fine and could easily be broken!



Reconnect after that RS232.

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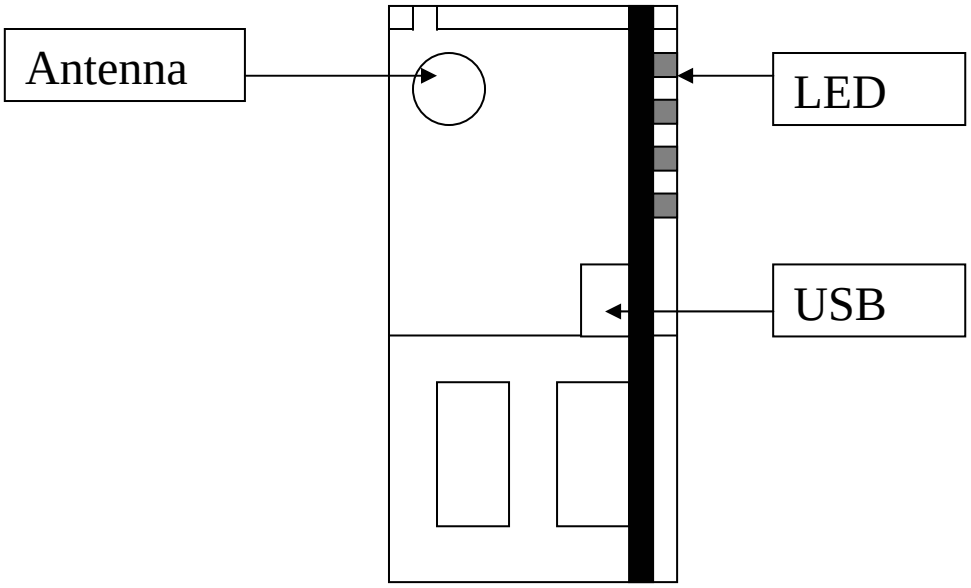
Pull the board in the front case, the is a line:



Reassign the 2 six edged screws on the front case (5mm) to the MPI/DP - interface. Snap the Rear case together with the front case. Mount the TELE-SERVICE Device again to the rack. Connect the antenna and the MPI/DP-Bus. After that connect the power-supply to the Device.

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1.5.4 Installation of MPI-Cablemanager

Insert the delivered CD into your CD/DVD-ROM drive. If your auto start is disabled, double-click the file “MegaNeu.exe”. Choose the Tele-Service Device in the following dialog:

Click onto the icon or text to show the sub-menu:

Click to MPI-Cablemanager to install. Execute the setup.

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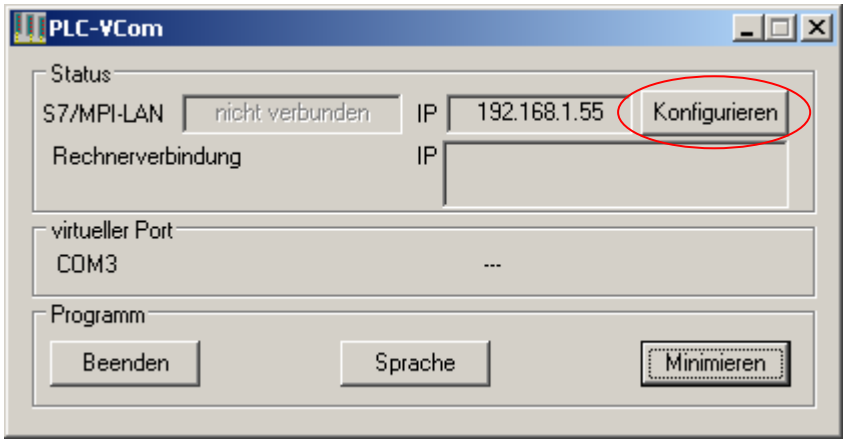
1.5.5 Installation USB-Port

If you wish to connect to the USB-Port, you need a virtual COM-Port. Click onto „PLCVCOM“ to install.

After Setup and restart of your PC, there is a tray-icon of PLCVCOM on the bottom right side of the screen. Click onto it to open:



Pressing the button „Configure“ a new dialog is shown. Connecting the TELE-SERVICE to the PC a line is shown at the top of the list, select it and press the button „OK“.

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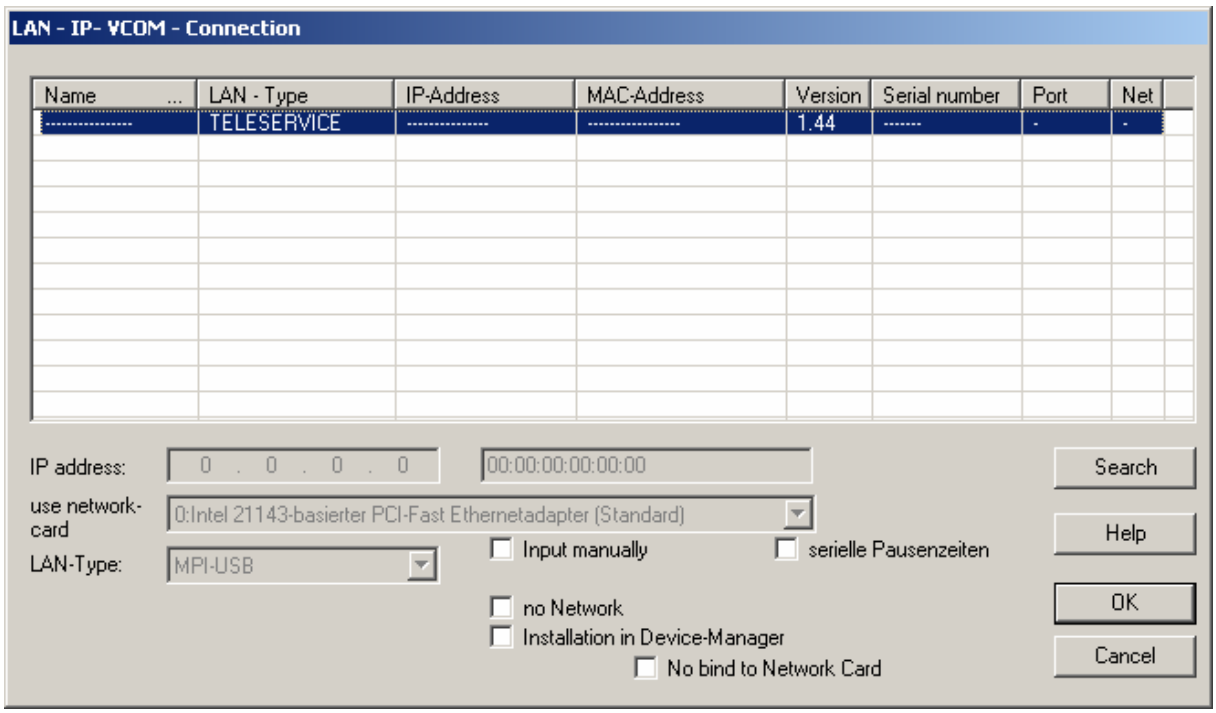
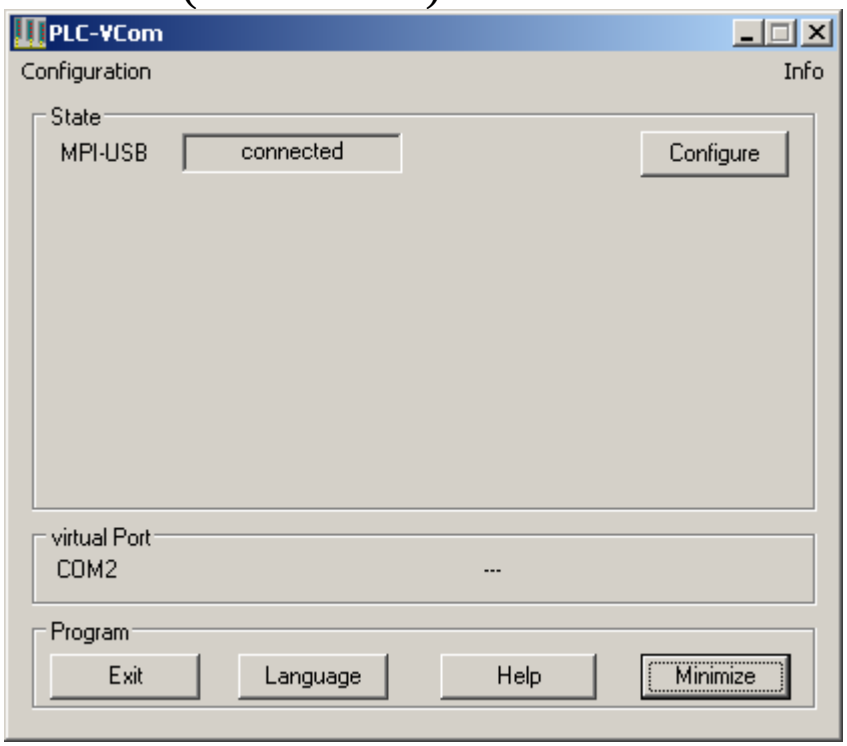


After that, the following should be shown in PLCVCOM. Remember the COM-Port, this port will be used by the software (here COM3):



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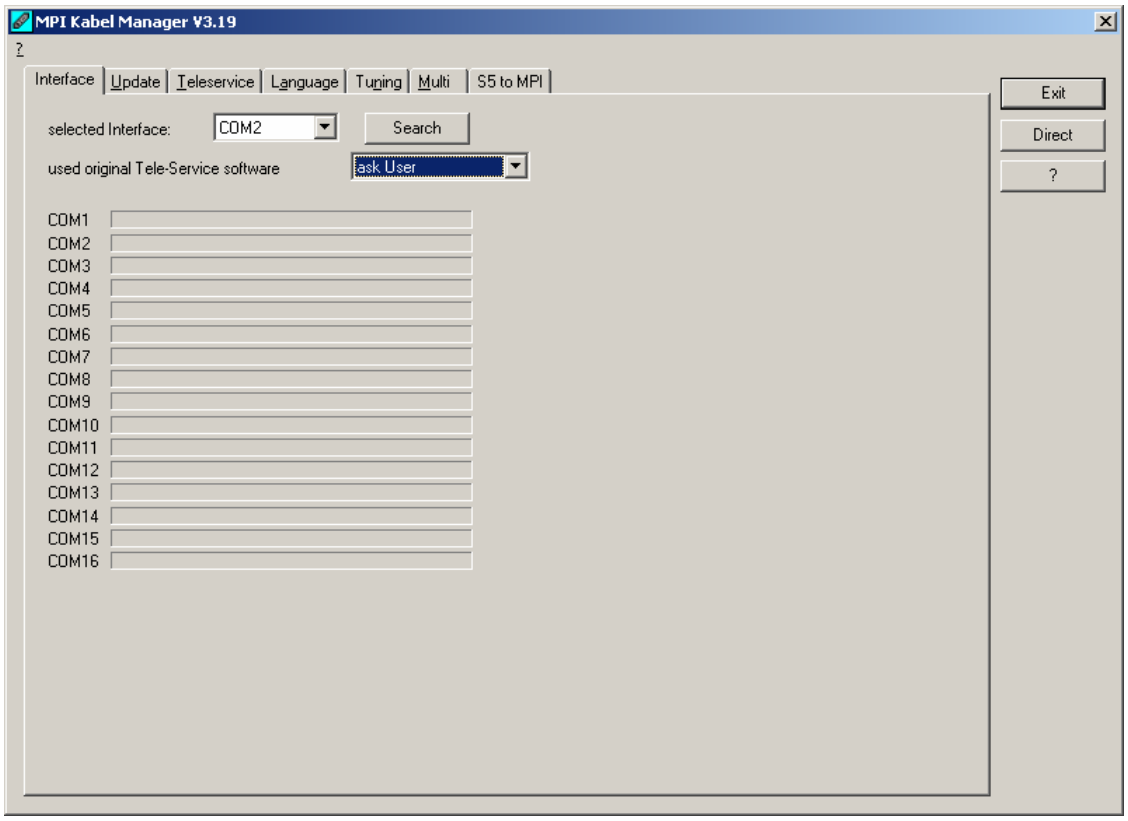
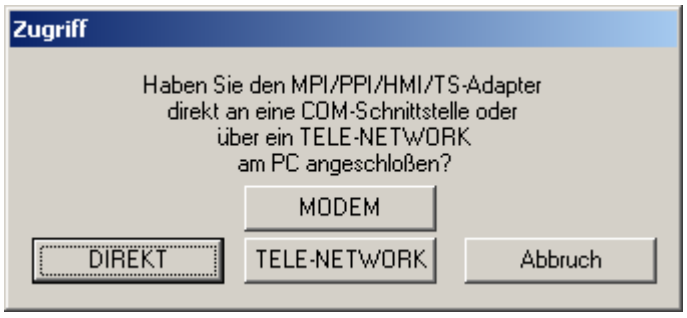
1.5.6 Configuration of TELE-SERVICE

After that start the MPI-Cablemanager from the start-menu. Connect the PC with the (powered on) TELE-SERVICE with the serial RS232 interface or the USB-Port. Select the tab „Interface“ and choose the COM-Port on which the TELE-SERVICE is connected:



You could also define with which TS-Software the Device is accessed or if the user should always be asked.

To configure the TELE-SERVICE select then the tab „TeleService“ and then press the button „Check Adapter “. In the following dialog choose the button “direct”:



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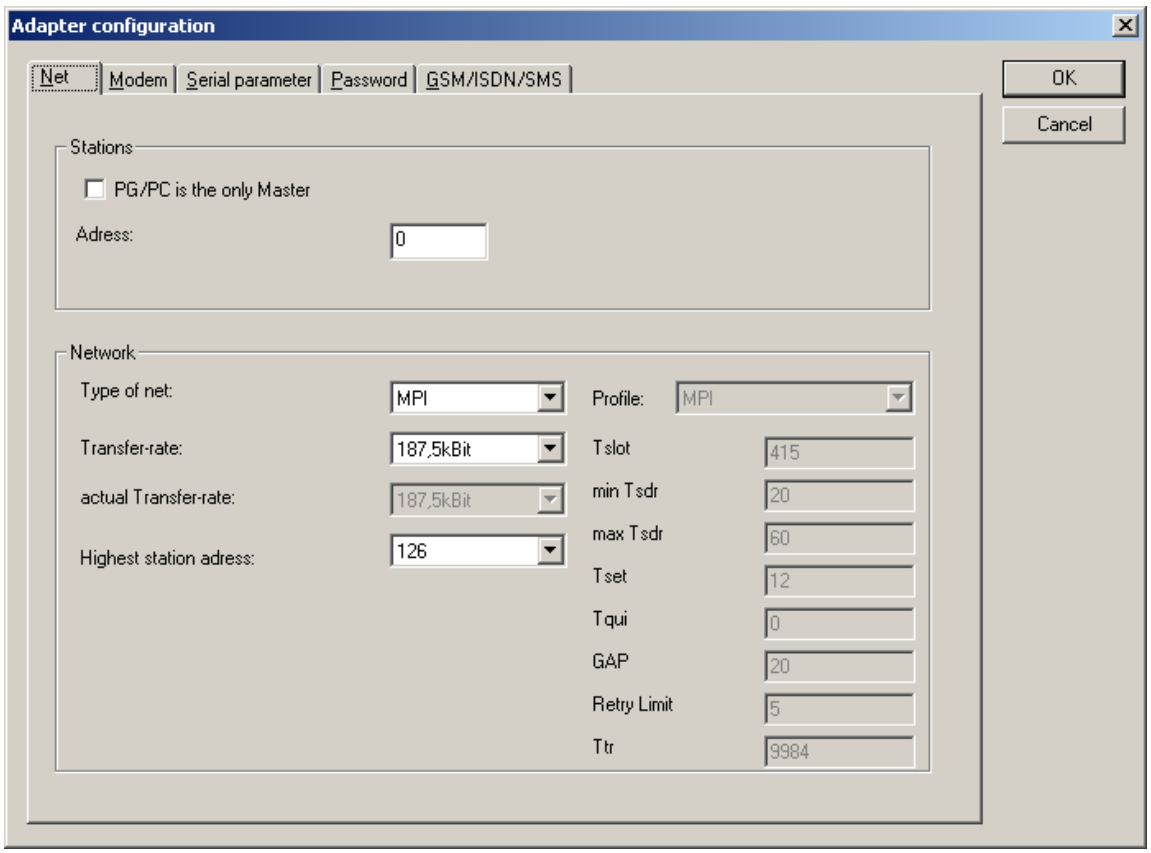
Pressing the button „Adapter Parameters“ a question arises if the TELE-SERVICE is used together with the Siemens-TeleService Software before V5.0 or not. After that the TELE-SERVICE could be configured.

1.5.6.1 *Network*



station-related you could configure if

The TS-Adapter is the one and *only master* in the MPI-bus (he must talk with all passive devices)

Which *local station-address* is used for the TS-Adapter. Please consider that a programming device has normally the number 0, operator panel have 1, PLC’s use 2, FM/CP’s 3 etc.

Please: Never use the same station-number for 2 different stations !

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Network-related you could configure:

The *transfer-speed* on the MPI-bus and the *Profile* which is used. The actually used Baudrate or the automatically found Baudrate is also displayed. Additionally the bus-parameters are displayed.

The *highest station-address* in the bus (the less you use, the more performance on the MPI-bus, must be corresponding with the configuration in the PLC's)

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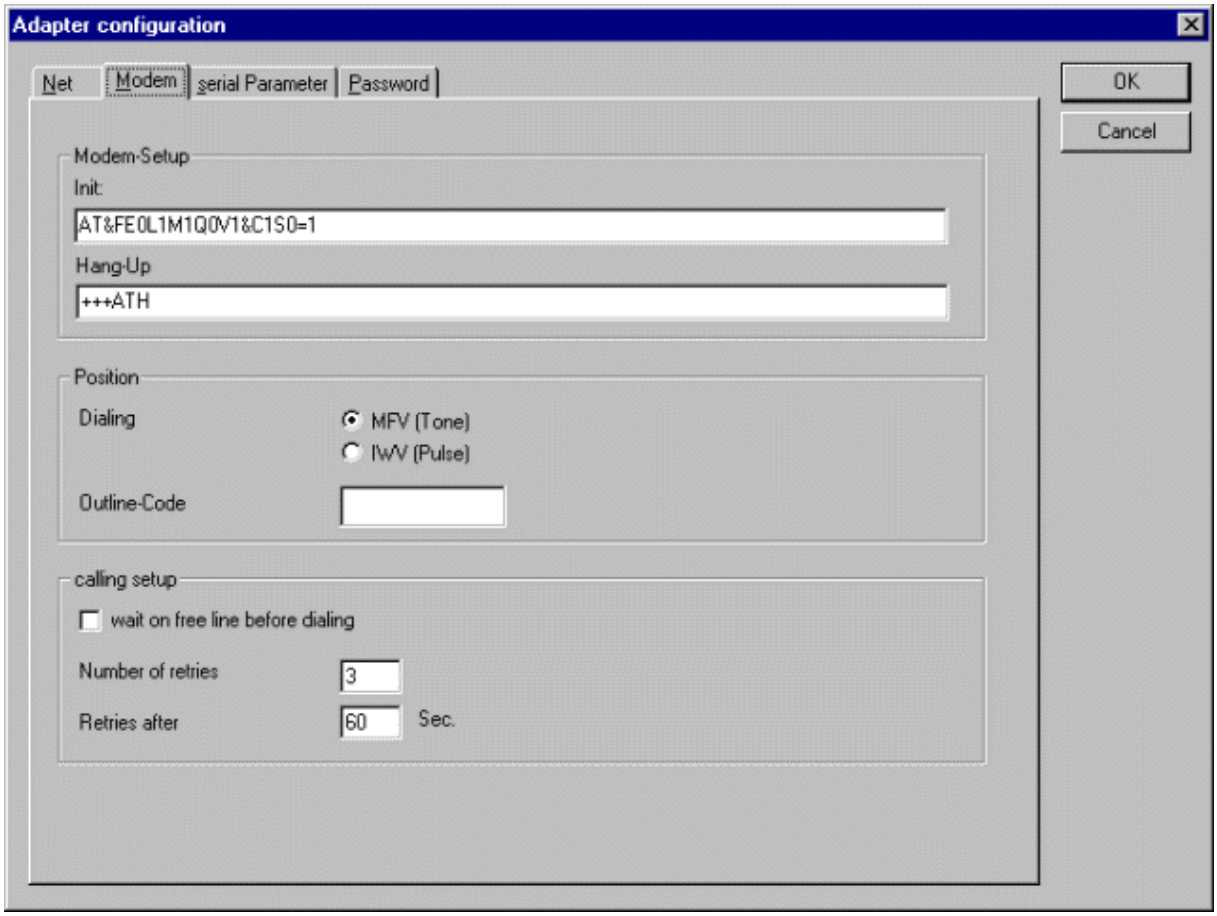
1.5.6.2 *Modem*



In this dialog you could configure the modem-related setup.

The ***Init-String*** is composed out of several commands to the modem:

AT	start command
&F	use factory settings
E0	echo off
L1	loudness of speaker is low
M1	speaker is on at connection
Q0	enables result codes to the DTE
V1	enables long-form (verbose) result codes
&C1	DCD follows the state of the carrier
S0=1	automatic connection after 1 ring

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The ***Hang-Up-String*** is composed of 2 elements:

+++	change to command-mode
AT	start command
H	hang-up connection

There are 2 possible calling technics:

MFV	tone, the telephone-number is transfer by several frequencies
IWV	pulse, the telephone-number is transferred with the count of several pulses on the line

When you must a pre-call to establish a call outside your company, you could define it at ***Outline code***.

When the modem should wait for a free line, so you should set the corresponding checkbox.

At ***number of retries*** you could configure the number of retries for a connection before the call is stopped.

When using a retry you could choose the seconds which the application should wait between calls.

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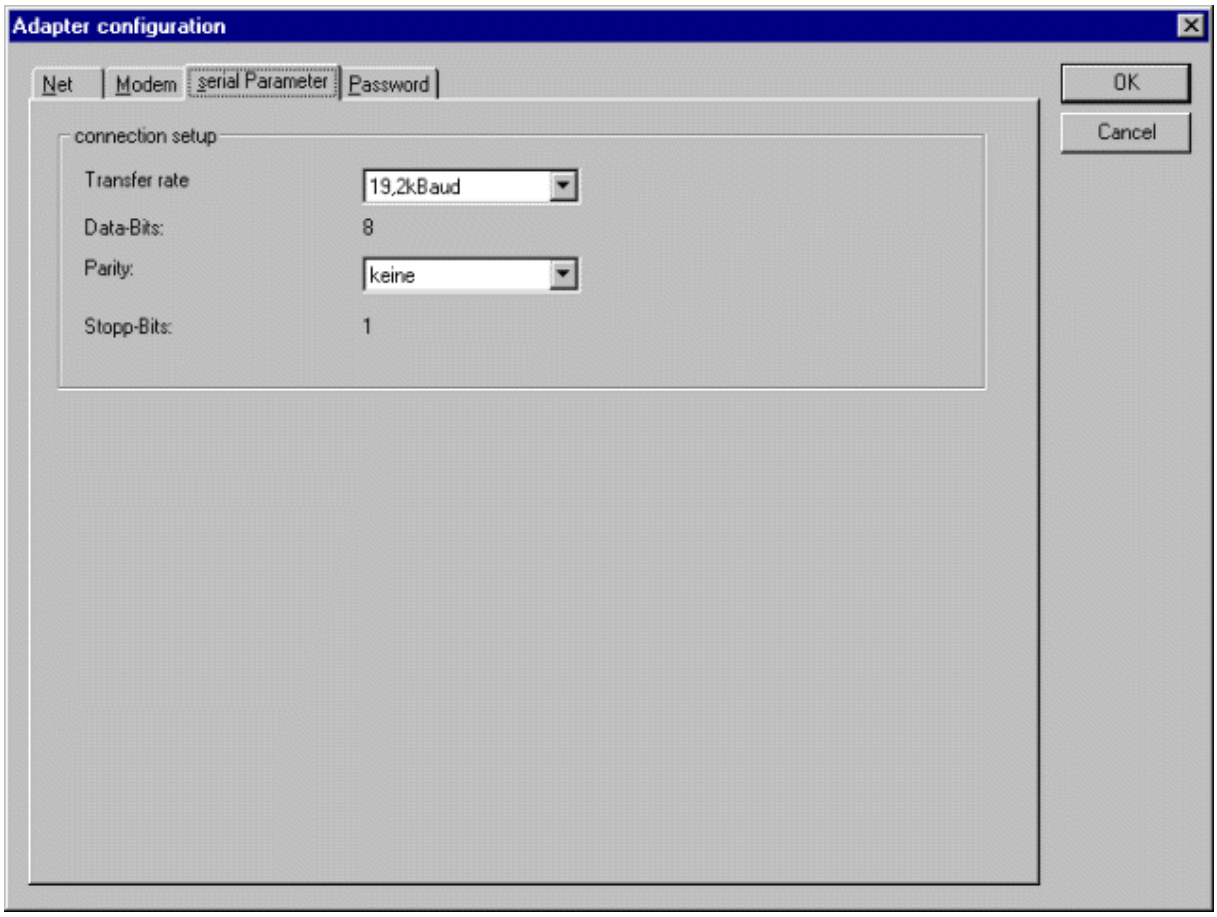
1.5.6.3 *Serial parameter*



In this dialog the transfer-rate between modem and TS-Adapter is selected.

The transfer-rate could be chosen between those values:
2400, 4800, 9600, 19.2k, 38.4k, 57.6k, and 115.2kBaud

The **Parity** could be chosen, but this is modem-dependant because some modems could not transfer the parity-bit:

None (no parity-check)
Odd (the numbers of one-bits are odd)
Even (the numbers of one-bits are even)

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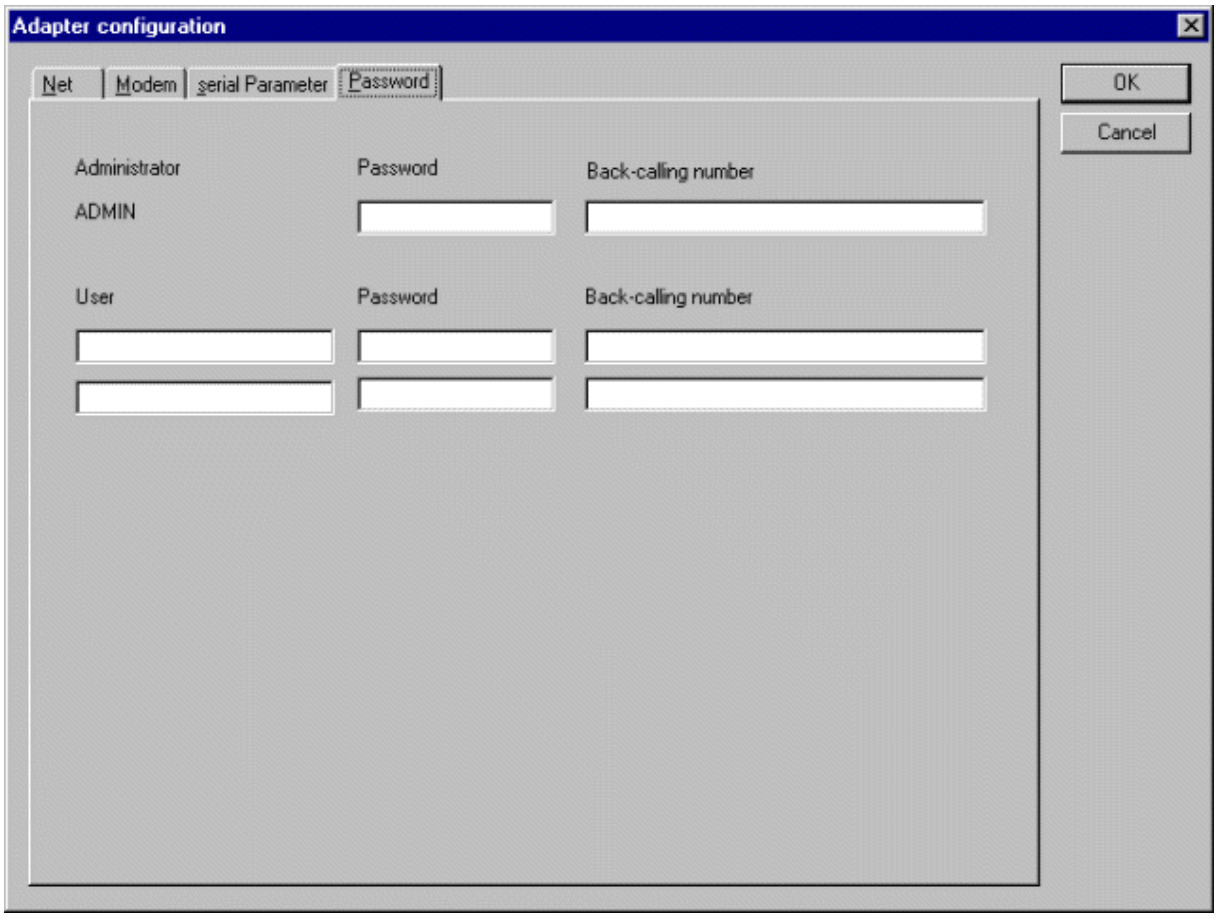
1.5.6.4 *Password*



The access over a telephone-line on the PLC could be configured in this dialog..

The administrator could change the configuration over a telephone line, where the 2 user could not change the configuration.

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The user-Name is max. 8 chars long. Every user and the administrator could use a password which is used to log into the PLC over a telephone-line. After 3 wrong retries the connection is hanged up, so you must call again (Not so with an original TS-adapter). After changing the password for one user/administrator you must re-type it again correctly before it is used.

In call-back-number you could define a telephone-number which is used for call-back from the TS-adapter. After you connect with the TS-adapter, you are asked for your user-name and password. When the correct password and user-name is transferred, the connection is hanged-up and the TS-adapter is calling back this configured call-back-number.

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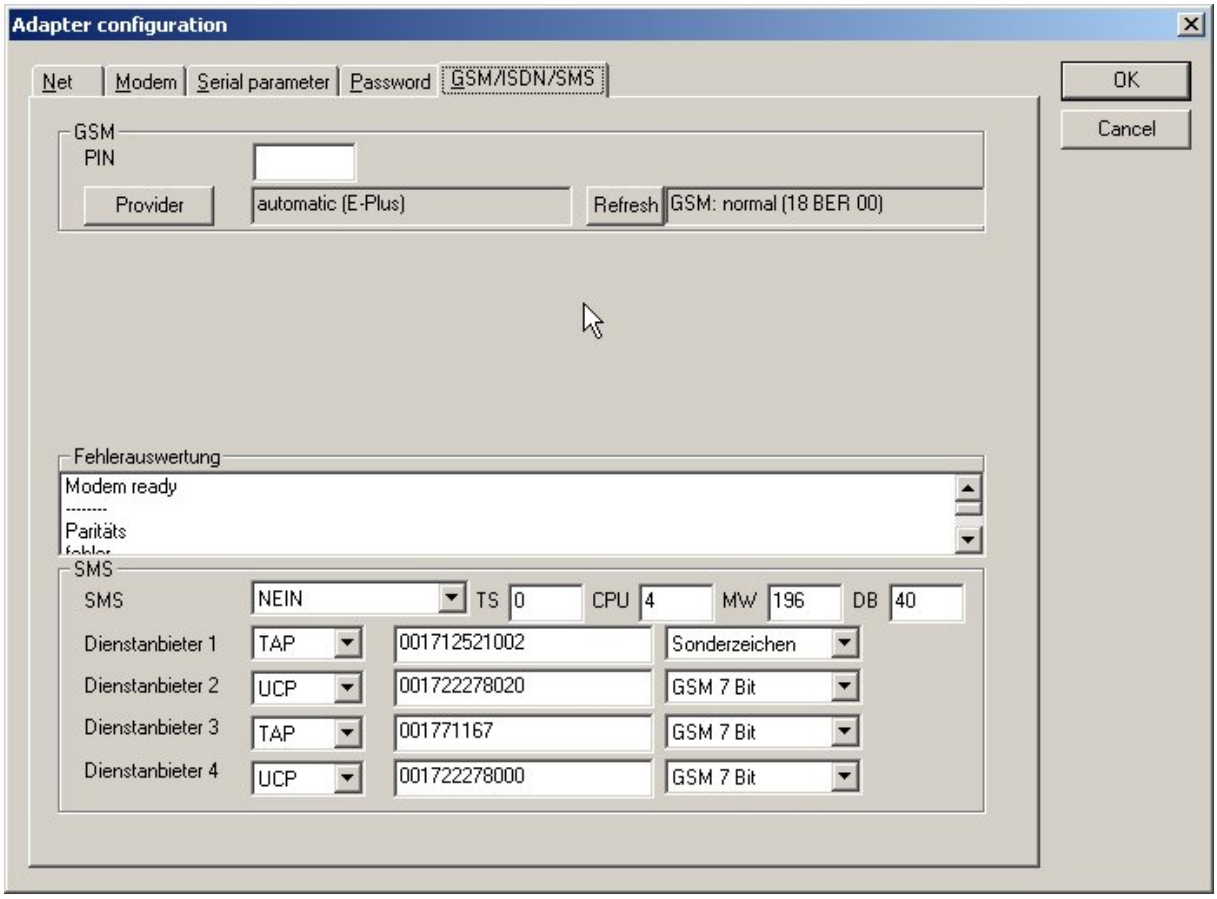
1.5.6.5 *GSM / ISDN /SMS*

1.5.6.5.1 GSM-Modem



PIN PIN-Number of the SIM-Card, up to 8 numeric chars, (only for TELE-SERVICE GSM).

With the Button „Provider“ the provider could be choosen.. Reading of the list of providers could be elapse more than a minute. At end the possible provider are listed for selection. With „Automatic“ the GSM-Modem tries to connect automatically to a provider.
On the right side of the button, the actual used selection is displayed.

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Display	Description
Automatic	The Provider is automatically searched and selected from the GSM-Modem.
Manual	The Provider is selected manually from the GSM-Modem
no network registered	No connection to the GSM-network, the receive-quality is too bad
set format	The format of the provider is set
manual/ automatic	The modem tries to select manually the provider, if this fails an automatic search is done
unknown	Unknown response from GSM-Modem

Beneath the button „Refresh“ which reads from the Modem the receive quality, the quality is displayed.

Display	Description
Unknown	Unknown state of the GSM-network
no registration:	The modem is not registered in the GSM network, no provider found
registration denied:	Registration in the GSM-network is denied
Search network:	In Search for a GSM-Provider
GSM:	Attached to GSM
GSM(ROAMING)	Attached to GSM, but with a Roaming-Partner. **This could lead to high costs!**

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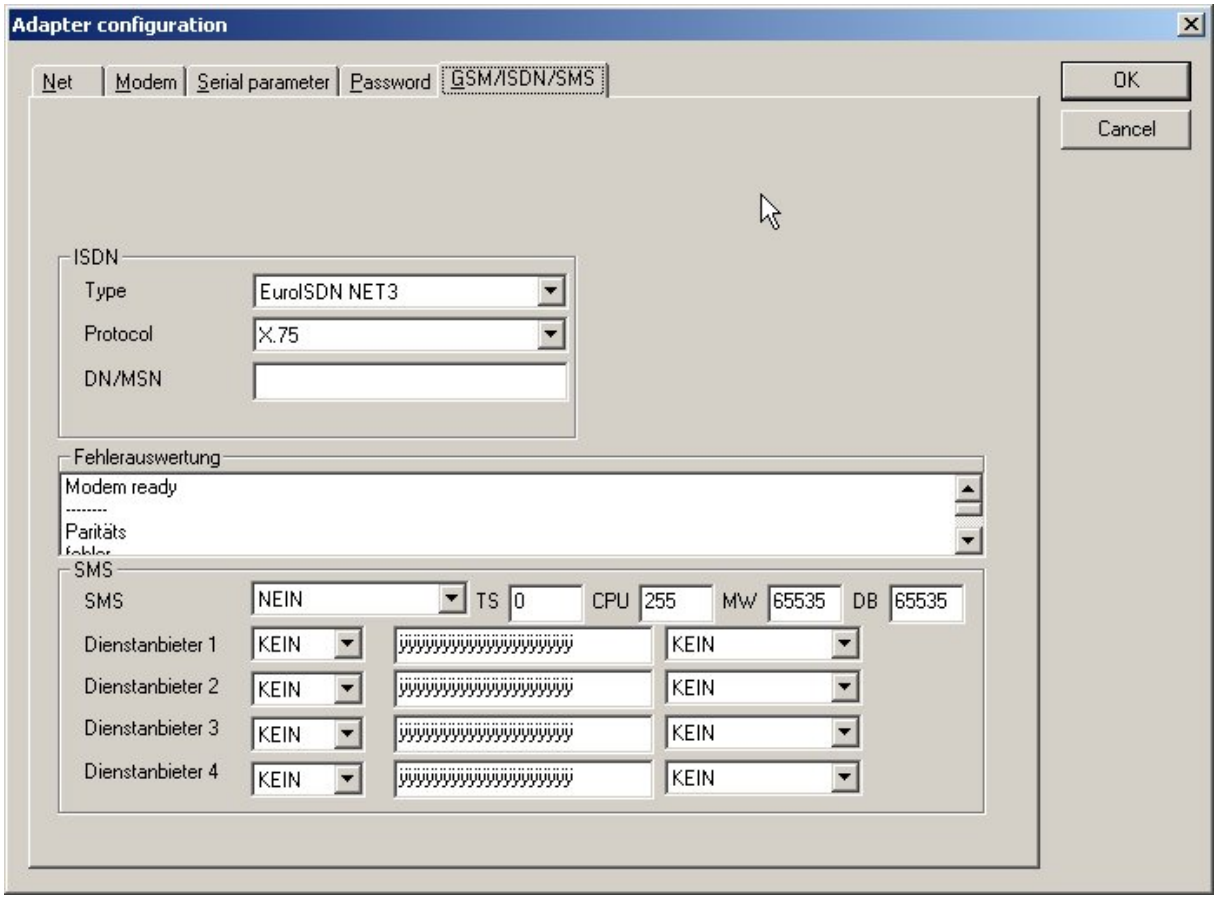
The Receive Quality is displayed, also as value together with the bit-error-rate.

Value	Description
99	No network, no receive
00	Very, very bad receive-quality
01	Very bad receive-quality
02 to 09	Bad receive-quality
10 to 17	Medium receive-quality
18 to 25	Normal receive-quality
26 to 30	Good receive-quality
31	Best receive-quality

1.5.6.5.2 ISDN-Modem



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Type Choose the type of the ISDN-network switch:

AT&T 5ESS
Nothern Telecom DMS-100
EuroISDN NET3 (Standard)
INS64
US NI-1
VN4

DN/MSN Directory Number resp. Multiple Subscriber Number Is used for both ISDN-channels. When using the number 255 no DN/MSN is used.

Protocol Choose the transfer-protocol-type:

Modem-like
V.120
X.75 (Standard)
ML-PPP
SoftBonding
HDLC
CLEAR

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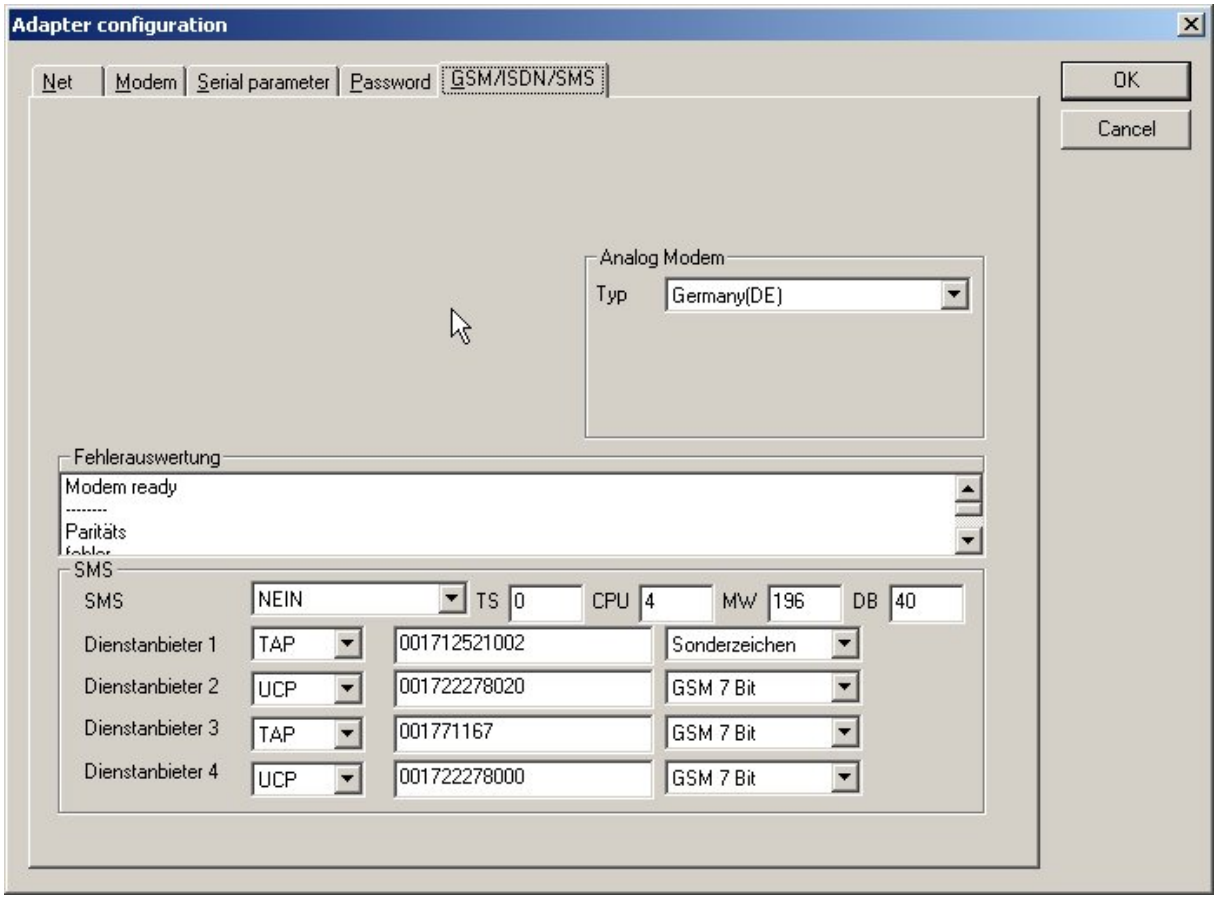
1.5.6.5.3 Analog-Modem



You could choose the Location of the Modem.

1.5.6.5.4 Messages

The possible error conditions for the modem, mpi-bus-problems or other problems are displayed in this text-field. Firstly, the modem-related information is shown:

Message
Modem ready
Modem error
No dialtone detected
no answer from modem
Modem detects ring
End of Connection
Modem connected
No carrier detected from modem
Phone-line or telephone busy

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Phone-number is blacklisted in modem
Phone-number delayed. Access denied for 1 minute.
Fax-call detected
Data-call detected
unknown error
The selected direct-access-number not configured
The configured PIN-Number is wrong for the inserted SIM-Card
The SIM-Card is not or wrong inserted or the SIM-Card is a 5V Type

Following the possible MPI-Bus error-messages

Message
MPI/Profibus-Configuration erroneous
Timeout at MPI/Profibus detach from device.
The local station-address is used twice in the MPI/Profibus.
A20/M20/TC35 Modem
The MPI/Profibus is not correctly configured
The HSA is not configured optimal
The MPI/Profibus-Baudrate is not detectable
Overflow in the internal MPI-Readbuffer
Overflow in the internal LAN-Readbuffer
Overflow in the serial Buffer
The selected MPI/Profibus-Baudrate is wrong
Overflow in internal LAN-Writebuffer
LAN-Recieve-Error
LAN-Send-Error
The PD-Numberr is wrong
The transferred SAP is wrong/unknown

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Error Code	Description
01	The Destination address (XXX) of a State protocol > 127 detected. In the MPI/Profibus-Bus there are no stations possible which station number is greater than 127. (FC=YYh)
02	At state-protocol the Source-Address is detected as 127. This is the Broadcast-address which is not possible.
03	The received State protocols destination address (XXX respectively YYY) does not exist in the MPI-Bus. (FC=ZZh)
04	The function-code (YYh) of the received State protocol from XXX is incorrect. The 7th Bit is High, but according to the specification the Bit has to be low.
05	A State protocol has been received. But the function-code (YYh) means that the participant is not ready to enter the bus.
06	The function-code in the State-protocol received from XXX is unknown (FC=YYh)
11	The sender (XXX) of the received data-protocol is unknown. To send data the participant must get the Token. (SSAP=YYh, FC=ZZh, length=UUU)
12	Data-protocol with Source-address 255 (Broadcast) is useless. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
13	The sender (XXX) of the received data-protocol is unknown. To send data the participant must get the Token. (SSAP=YYh, FC=ZZh, length=UUU)
14	The 7th Bit of the function-code is High, but according to the specification the Bit has to be low. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)

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15	The upper 4 Bit of the Function-code are wrong/unknown) (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
16	Unknown function-code has been transmitted to the cable. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
17	Destination-SAP are defined till 3Fh in data-protocols. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
18	Source-SAP are defined till 3Fh in data-protocols. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
19	Received a data-protocol with destination-SAP=0, Connection request from another bus-participant with our cable. (CPU=XXX,SSAP=YYh,FC=ZZh,DSAP=UUh)
1A	Participants are sending data to our cable with source-SAP = 0, which means that the participant has not made a connection establishment or has lost the negotiated SAP. (CPU=XXX,SSAP=YYh,FC=ZZh,DSAP=UUh)
1B	Data-protocol with unknown data-function-code received. (CPU=XXX,SSAP=YYh,FC=ZZh,DFC=UUh)
1C	Data-protocol with unknown data-function-code received. (CPU=XXX,SSAP=YYh,FC=ZZh,DFC=UUh)
1D	Received a state-protocol with error-code. (CPU=XXX,FPGA=YYh,RAM=ZZh)
1E	FPGA has caused an interrupt although no data present. (SD1=XXh,SD1=YYh,CPU=ZZZ,FC=UUh)
20	Unknown protocol at PPIMultimaster-Mode (FC=XXh,Länge=YYY)

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21	Unknown baud-rate at PPIMultimaster-Mode (Baudrate=XXh)

After that additional hints are displayed.

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1.6 Connecting the TELE-SERVICE

This TELE-SERV will be connected with the left connector to the MPI- or the Profibus-Interface of the PLC. The TELE-SERVICE is power supplied with an external 24V voltage.
The right connector could connect to the programming-device or with a PC to the COM-Port.
When the TELE-SERVICE gets the power it begins with the test of its internal components.
The cable will find at a MPI-Connection the active baud rate to the programming-device or to the serial port of the PC in the first time of communication and set his baud rate himself.
If you want to connect the cable to the 25-pin connector of the PC, you can use an adapter (9 pin to 25 pin sub miniature D-connector) to work with this port.
In the PC-Software you must adjust some parameters like the baud rate (19,2 or 38,4 kbaud) and the connected COM-PORT (COM1 or COM2) and the used adapter as ´TS-Adapter´.

At the PLC-programming-application PG95/PG-2000 or S7-for-Windows works the TELE-SERVICE with up to 115,2kBaud on the PC-Side.

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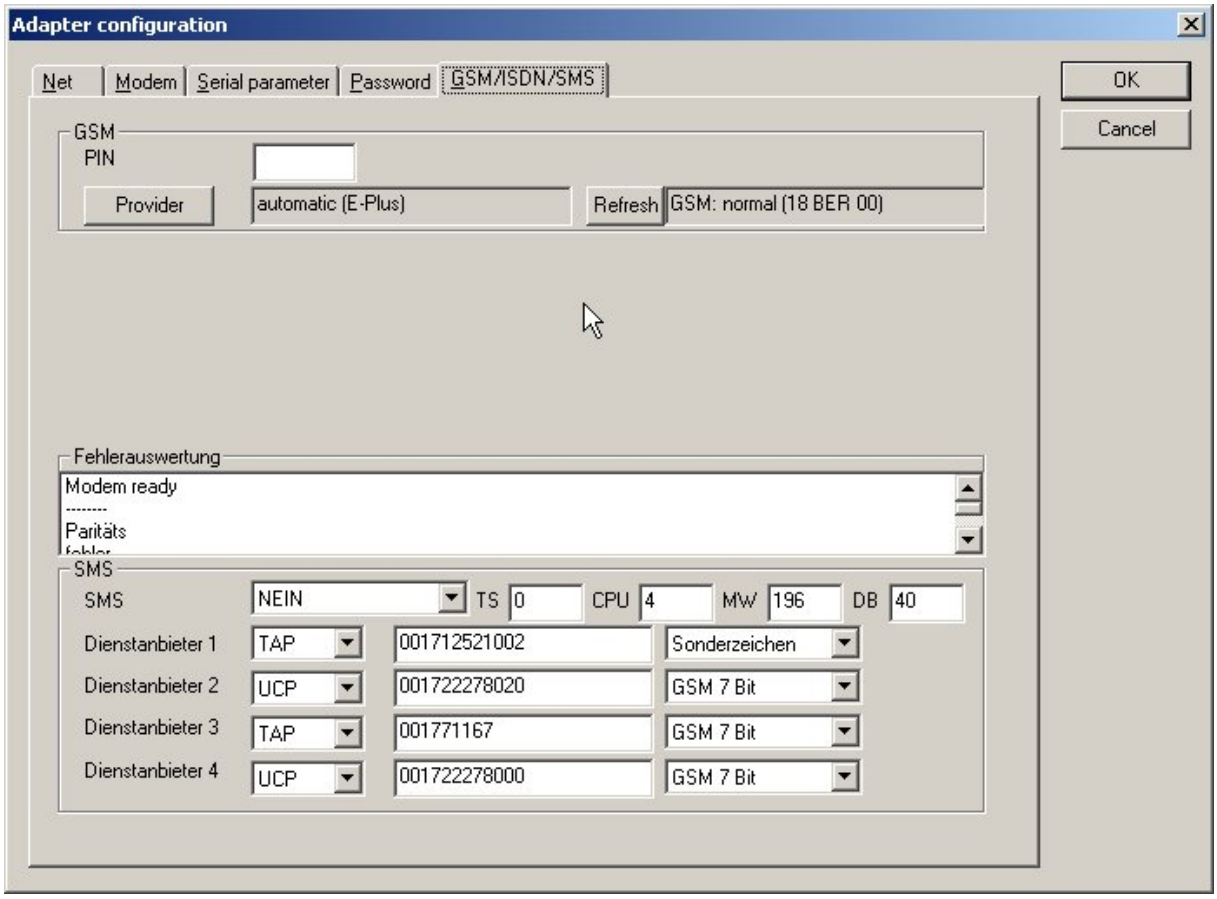
1.7 Processing SMS

1.7.1 Settings in the Cablemanager Application



SMS Switches Processing OFF / Only Receive / Only Send / Receive and Send.
Attention: **before setting ON check configuration**, after activating the device will go into the MPI-BUS and tries to connect to the defined PLC.
Receive of SMS only with TELESERVICE-GSM
Receive of DTMF only with with TELESERVICE GSM

TS local station-address (should not be used twice in the MPI/Profibus!)

PLC from this station-address the Flagword and

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Data-block is accessed for communication

MW communication-flagword (the first byte is the command, the second is the state). Use even operand-addresses.

DB communication-data-block.

Provider 1/2/3/4 Configure the SMS-Provider to use, including type, phone-number and char-code.
In the data-block of the PLC the coding is DBB0.

1	B#16#00
2	B#16#01
3	B#16#02
4	B#16#03

Type There are following types possible:

- NONE the Provider is undefined
- TAP the Provider uses the TAP-Protocol (f.e.: D1,E+)
- UCP the Provider uses the UCP-Protocol (f.e.: D2)
- GSM the Provider is connected with the Handy directly. Charset is NONE.
  (only possible with TeleService GSM!)
  In this case you could import the SMSC-number directly from the TeleService by pressing the button "**SMSC**" on the right hand side.

Phone-number of the Provider, up to 20 Chars, eventually you need the Country-Code-Prefix (f.e.:0049 1771167)

Charset there are following codes possible:

- NONE for GSM.

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- Special Chars — with special Chars the “Umlaute” could be used (german special chars f.e. ÄÖÜäöüß).
- GSM7BIT — with Escapesequences you could use “Umlaute“ (german special chars f.e. ÄÖÜäöüß).

Please, keep in mind that the protocol and the Charset must correspond.

1.7.2 Common SMS for Analogue / ISDN / GSM

After configuration of the SMS-Mode with the MPI-Cablemanager Application, the connected PLC could then send or receive a SMS. A flag-word and a data-block is needed in the PLC.

The Flag-word should be at an even operand-address.

Ex.: FW 254 is the communication-flag-word

the command is written to FY 254, there are the following values possible:

Value	Description
00h	Last offer is done or no offer is running
01h	SMS-Send is started
02h	SMS-Receive is started (only TS GSM!)
10h	DTMF-Receive is possible for one call, if a call was made the normal data-mode is entered again (not with TS ISDN!)
20h	Disable DTMF- Receive, a normal SMS-Send/Receive is then again possible

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To start an offer the State-byte must be 00h and in the command-byte a 01h or 02h, in our example we start a SMS-offer with:

```
L     W#16#0100
T     FW 254
```

In the TeleService the flag-word is read every 5 Seconds, and if needed the data-block (DB255).

At end of the offer, the command-byte is written with 00h, in the state-byte is then the result-code. Receiving of a SMS is higher prior as sending. That means when in the flag-word is 0300h, **only** the receiving is started.

When DTMF-Receive is active the modem is set into voice-mode and remains in this mode until a call is made and gone on-hook or with the FW 254 the command 20h = DTMF Receive End the Voice-mode is exit.
The status-byte **must** then be set to 00h !

The state-byte (FY 255) could have the following values:

Value	Description
00h	SMS-Offer not yet detected by the TeleService
10h	SMS-Offer is detected and is now running
11h	The data-block is not existing or too small at the PLC
12h	Type of Phone-number is wrong or phone-number is empty
13h	Type of SMS-Message is wrong or SMS-Message is empty
14h	Receive from PLC started, Access denied
15h	Sending from PLC started, Access denied
20h	The Provider-number in the data-block is not in the

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	range 0-3
21h	Provider-type is not known or defined
22h	Phone-number of Provider is empty or has more than 20 Chars
23h	Provider is not responding or takes line but no connect
24h	Provider CallCenter for GSM sending is transfered
25h	TeleService has an analogue or ISDN-Modem installed, the type GSM is not possible.
2Fh	Calling Provider
40h	Provider is busy or hanged-up
41h	The Modem in the TELE-SERVICE is used
60h	Provider is connected
70h	Checking Provider
71h	Provider-type is unknown
72h	Timeout at communication with the Provider
73h	Error from Provider
74h	Provider CallCenter could not be set
75h	Dest.phone-number is sent, waiting for message start
76h	SMS-Message could not be sent.
80h	Message is sent correctly
81h	Receiving SMS, Timeout occurred
82h	Reading SMS
83h	Reading SMS, Timeout occurred
84h	Reading Phone number, Timeout occurred
85h	Reading Phone number
86h	Reading Phone number, Timeout occurred
87h	Reading Time/Date, Timeout occurred
88h	Reading Time/Date
89h	Reading Message
8Ah	Reading Message, Timeout occurred
8Bh	SMS transfer in data-block
8Ch	Error at SMS transfer in data-block
8Dh	SMS is deleted onto the SIM-Card

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8Eh	could not erase SMS-Message
8Fh	Waiting until Message is complete
90h	SMS is read and written in data-block
91h	No SMS received
A0h	DTMF receive ready
A1h	Initialise DTMF erroneous (f.e. with TS ISDN !)
A2h	Waiting for call
A3h	Timeout *2
A4h	Cal detected, User enters
A5h	Call finished from User or Timeout *2
A6h	On Hook erroneous
A7h	Could not write Data-block wit DTMF-
B0h	GPRS Clock finished *1
B1h	GPRS set APN-Server *1
B2h	GPRS set APN-User *1
B3h	GPRS set APN-Password *1
B4h	Register GPRS *1
B5h	Set GPRS PIN *1
B6h	Set GPRS Attributes *1
B7h	Start Connection *1
B8h	Set UDP-Port *1
B9h	Set NTP-Server *1
Bah	Open socket and send data *1
BBh	Wait on Answer from NTP-Server *1
BCh	Data received, calculating clock *1
BDh	Timeout GPRS occurred *1
C0h	Cancel/Hang Up when DTMF-Receive

*1 not implemented yet
*2 from TeleService V1.39 obsolete

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The communication-data-block has the following structure:

Adresse	Name	Typ	Anfangswert	Kommentar
0.0		STRUCT		
+0.0	Dienstnummer	BYTE	B#16#2	Provider-Nummer 0-3 (SMS-Konfiguration im MPI-Kabelmanager)
+1.0	Reserve	BYTE	B#16#0	Reserviert
+2.0	Telefonnummer	STRING[20]	'0177xxxxxxx'	Handy-Telefonnummer an die die SMS verschickt werden soll
+24.0	TelEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+25.0	Reservel	BYTE	B#16#0	Reserviert
+26.0	Meldung	STRING[160]	'Versuch 2 : öäüÖÄÜß+*-'	Nachricht die gesendet werden soll
+188.0	MeldEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+189.0	Reserve3	BYTE	B#16#0	Reserviert
+190.0	Reserve2	ARRAY[0..1]	B#16#0	Reserviert für spätere Erweiterungen
*1.0		BYTE		
+192.0	Stunden	BYTE	B#16#0	Absendezeit Stunden
+193.0	Minuten	BYTE	B#16#0	Absendezeit Minuten
+194.0	Sekunden	BYTE	B#16#0	Absendezeit Sekunden
+195.0	TimeZone	BYTE	B#16#0	Zeitzone in Viertelstunden (Bsp:8 => 8*15Min = 2h)
+196.0	Tag	BYTE	B#16#0	Absendedatum Tag
+197.0	Monat	BYTE	B#16#0	Absendedatum Monat
+198.0	Jahr	BYTE	B#16#0	Absendedatum Jahr
+199.0	Nummer	BYTE	B#16#0	Nummer der SMS auf der SIM-Karte
+200.0	EmpfTelefonnummer	STRING[20]	''	Absendetelefonnummer
+222.0	EmpfTelEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+223.0	Reserve4	BYTE	B#16#0	Reserviert
+224.0	EmpfMeldun	STRING[160]	''	empfangener Nachrichtentext bis zu 160 Zeichen
+386.0	EmpfMeldEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
=388.0		END_STRUCT		

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Off	data-type	Description
000	BYTE	Provider-Number 0-3
001	BYTE	Reserved
002	String[20]	Handy-phone-number which should get the SMS (max 20 Chars)
024	BYTE	End of phone-number (must be 00h)
025	BYTE	Reserved
026	String[160]	SMS-Message, **when using special chars the usable message-size is less than 160 chars**, the message is then truncated.
188	BYTE	End of SMS-Message (must be 00h)
189	BYTE	Reserved
190	BYTE	Reserved
191	BYTE	Reserved
192	BYTE	Hour (00-24)
193	BYTE	Minutes (00-59)
194	BYTE	Seconds (00-59)
195	BYTE	Timezone (Quarter Elements)
196	BYTE	Day of month (01-31)
197	BYTE	Month (01-12)
198	BYTE	Year (00-99,Ex:06 = 2006)
199	BYTE	Number in SIM-Card Memory
200	String[20]	Phone-number which sent the SMS (max 20 Chars)
222	BYTE	End of phone-number (must be 00h)
223	BYTE	Reserved
224	String[160]	Received SMS-Message
225	BYTE	End of SMS-Message (must be 00h)

The data-bytes 0 to 191 are read, the data-bytes 192 to 225 are written from TELESERVICE.

In Germany the following Provider-phone-numbers are actually used, they could be changed by the provider:

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Net	Phone-number	Type	Code
D1	01712521001	TAP	Special Chars
D1	01712521002	TAP	Special Chars
D2	01722278000 (ISDN)	UCP	GSM 7 Bit
D2	01722278010 (ISDN)	UCP	GSM 7 Bit
D2	01722278020	UCP	GSM 7 Bit
D2	01722278025	UCP	GSM 7 Bit
E+	01771167	TAP	GSM 7 Bit
E+ *	01770610000	GSM	NONE

* TeleService GSM only

Country	Provider	SMSC-Phonenumber	ISDN	Modem	Protocol
Australia	Telstra	+61 18 018767		7E1	TAP,mnmail
Austria	A1	+43 900 664914		7E1	TAP
Austria	AirPage	+43 688 3232111		7E1	TAP
Belgium	Mobistar	+32 495 955205		8N1	UCP-01
Belgium	Proximus	+32 075 161622		8N1	UCP-01
Denmark	Tele Danmark	+45 4362 5250		8N1	UCP
Finland	Sonera	+358 20 9801		8N1	UCP-01
Germany	T-Mobile	+49 171 2521001	x75	8N1	TAP,PG1
Germany	E-Plus	+49 177 1167	x75	8N1	TAP,PG1
Germany	O2	+49 1090 0179 7673425		8N1	TAP
Germany	Vodafone	+49 172 2278000		8N1	UCP
Germany	Vodafone	+49 172 2278010	x75		UCP
Germany	AnnyWay	+49 90032669005	x75		UCP
Ireland	Eircell	+353 1 2607000		8N1	TAP,PG1
Ireland	Esat Digifone	+353 86 8525352		8N1	TAP
Netherlands	KPN	+31 653 141414	x75		UCP
Norway	Telenor	+47 900 02198		8N1	UCP-01
Portugal	Telecell	+351 91 1449		8N1	UCP
Portugal	TMN	+351 96 2113		8N1	UCP-01
Spain	Movistar	+34 609 001058		8N1	UCP
Sweden	Telia Price 1	+46 740 930000		8N1	UCP
Sweden	Telia Price 2	+46 740 930100		7E1	UCP-01
Sweden	Telia Price 3	+46 740 930200		8N1	UCP
Switzerland	Swisscom	+41 900 900941	x75		UCP
Switzerland	NatelD	+41 79 4998990		8N1	UCP

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UK	BT Paging	+44 345 581354		7E1	TAP
UK	Vodafone	+44 385 499993		8N1	TAP
UK	Cellnet	+44 860 980480		8N1	UCP
UK	Cellnet	+44 860 980480		8N1	TAP
UK	Hutchison	+44 941 100400		7E1	TAP
UK	one2one	+44 958 879889		7E1	TAP
UK	Orange	+44 973 100601			TAP

See also SMSC in Chapter 1.14

Keep in mind that some provider are sending SMS only to their own network (this does not apply for GSM)

If you which to send SMS to all networks you could use a Service which costs. They could access even a normal telephone by voice-mail.

Net	Phone-number	Type	Code
Materna	090032669002	UCP	GSM 7Bit

Attention: There will be additional costs to the normal phone-bills !

(at the moment SMS to Handy/wired phone as Speech 17ct)
More Informations on www.sms-im-festnetz.de

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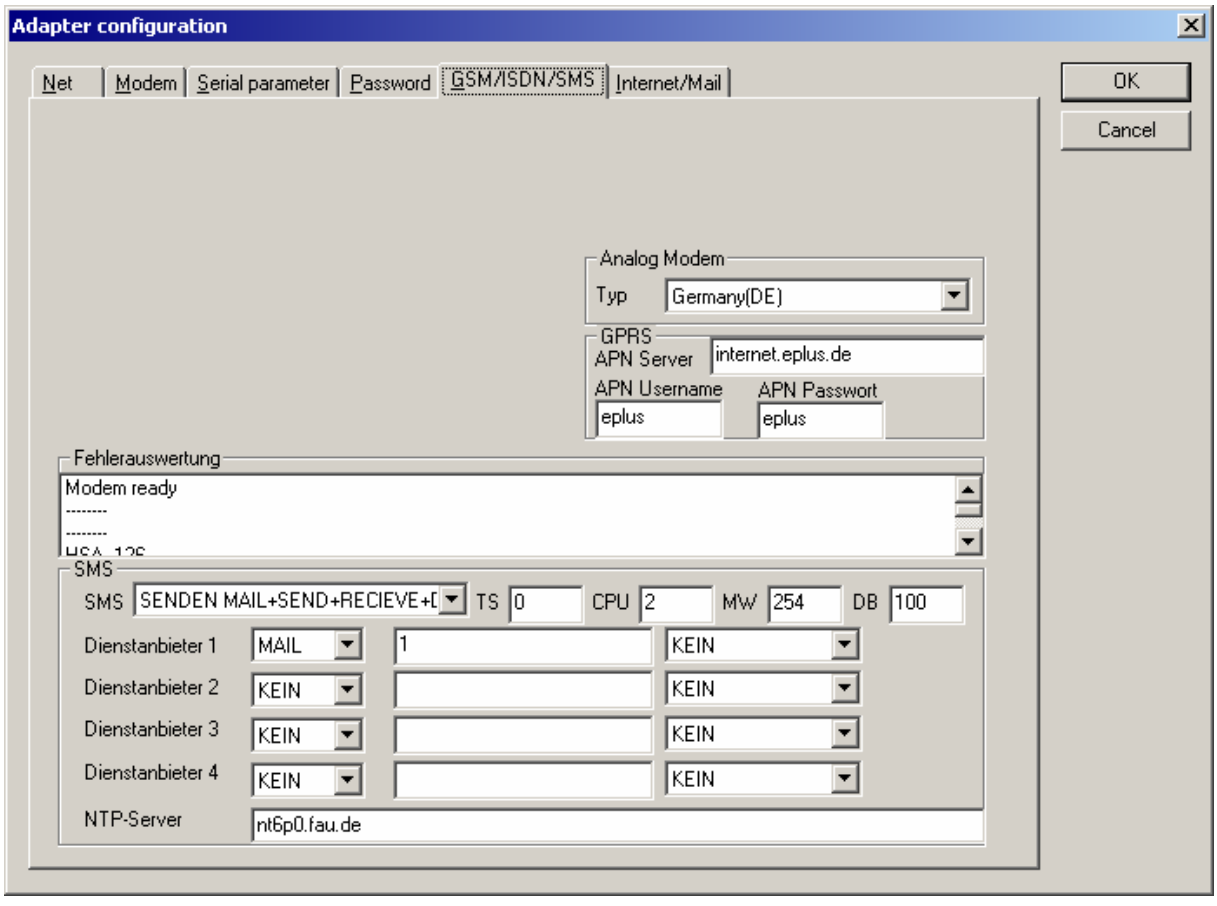
1.8 Sending E-Mail

To send E-Mail with the TeleService Device the following pre-cautions must met:

- Operating system of TeleService is at least V1.48
- Cable-manager at least V3.23
- access on Internet by Phone-Call, Protocol PPP
- accessible EMail-Server in the Internet, Authentification with AUTH-LOGIN

1.8.1 Properties in the Cable-manager



SMS additionally to the Receiving/sending of SMS and DTMF-processing, the Type „SENDEN MAIL“ is usable.

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Attention: **check Parameter before activation**
After activation the Device is trying to connect to MPI-Bus and station address.

TS local station-address (should not be used twice in the MPI/Profibus!)

PLC from this station-address the Flagword and Data-block is accessed for communication

MW communication-flagword (the first byte is the command, the second is the state). Use even operand-addresses.

DB communication-data-block.

Provider 1/2/3/4 Configure the Internet-Provider to use, Protocol PPP is needed. In the data-block of the PLC the coding is DBB0.

1	B#16#00
2	B#16#01
3	B#16#02
4	B#16#03

Type use the type „MAIL“ to send E-Mails over Internet by Call and E-Mail-server

Phone-number of the Internet-Provider, up to 20 Chars, eventually you need the Country-Code-Prefix (f.e.:0049)

Charset use “NONE” for GSM or EMAIL

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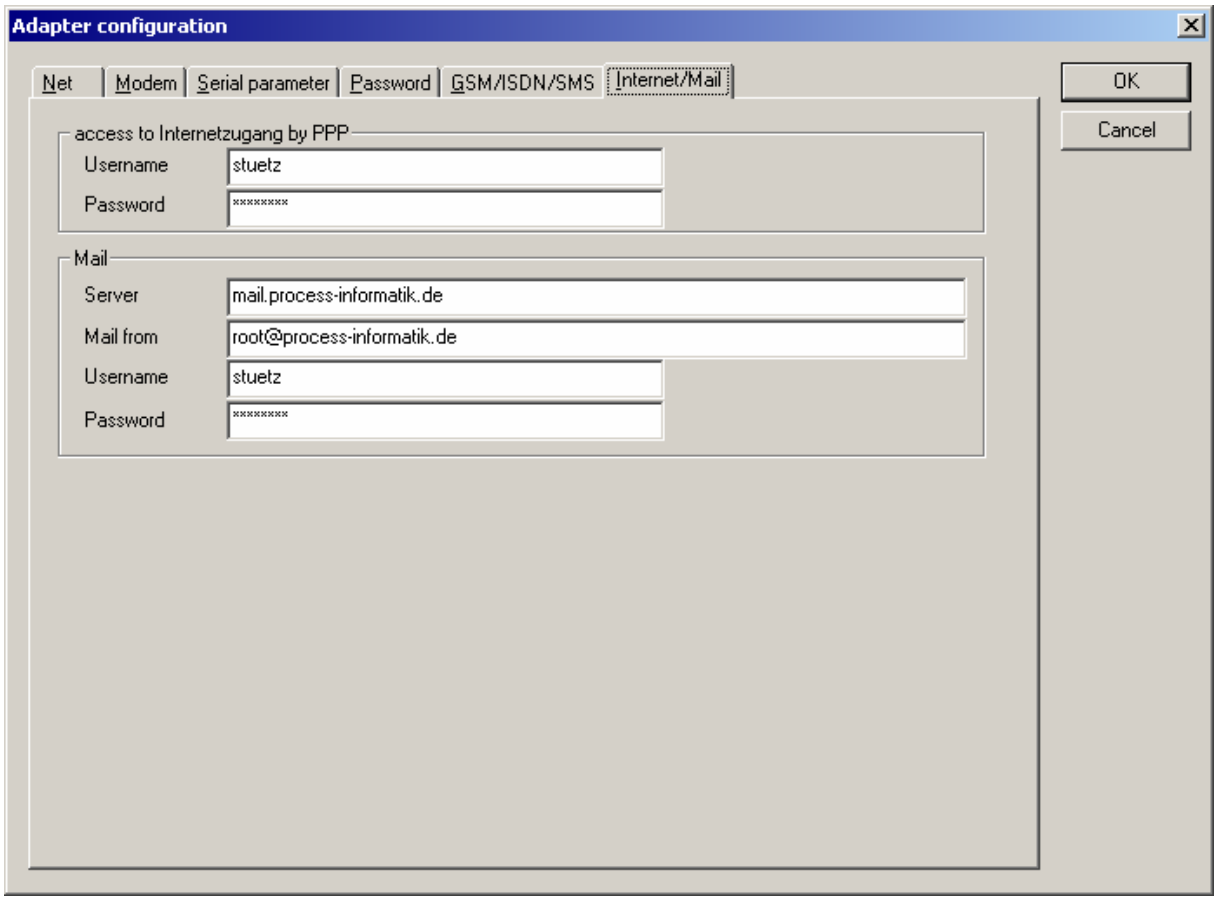
1.8.2 Configure Internet / E-Mail-Server



After a call to the Internet-Provider, the connection is configured by PPP, eventually a *Username* and *Password* is needed, define them in „*access to Internet by PPP* “

Attention: This is **NOT** the Username and Password of your E-Mail-account !

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In the next section „*Mail*“ the E-Mail-account is defined:

Server	Name of the Email-Servers, which is iused to send the EMail.
Mail from	Source-EMail-Addresse (should be from the same Free-mailer, instead a delivery is mostly not possible)
Username	Name of the User-account (mostly the EMail-address or Customer-number)
Password	Password for the EMail-Account

1.8.3 Configuration in the PLC

After configuration of the MAIL-Mode with the MPI-Cablemanager Application, the connected PLC could then send a MAIL. A flag-word and a data-block is needed in the PLC.

The Flag-word should be at an even operand-address.

Ex.: FW 254 is the communication-flag-word

the command is written to FY 254, there are the following values possible:

Value	Description
00h	Last offer is done or no offer is running
01h	SMS-Send is started
02h	SMS-Receive is started (only TS GSM!)
10h	DTMF-Receive is possible for one call, if a call was made the normal data-mode is entered again (not with TS ISDN!)
20h	Disable DTMF- Receive, a normal SMS-

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	Send/Receive is then again possible
40h	Start sending the EMail

To start an offer the State-byte must be 00h and in the command-byte a 40h, in our example we start a EMAIL-offer with:

```
L     W#16#4000
T     FW 254
```

In the TeleService the flag-word is read every 5 Seconds, and if needed the data-block (DB255).

At end of the offer, the command-byte is written with 00h, in the state-byte is then the result-code.

The state-byte (FY 255) could have the following additionally used values (look also into Chapter 1.7.2):

Value	Description
16h	Destination – EMail - Address wrong/empty
17h	S8ubject-line wrong/empty
D0h	No connect to PPP-Server
D1h	No DNS possible
D2h	Error when sending the message

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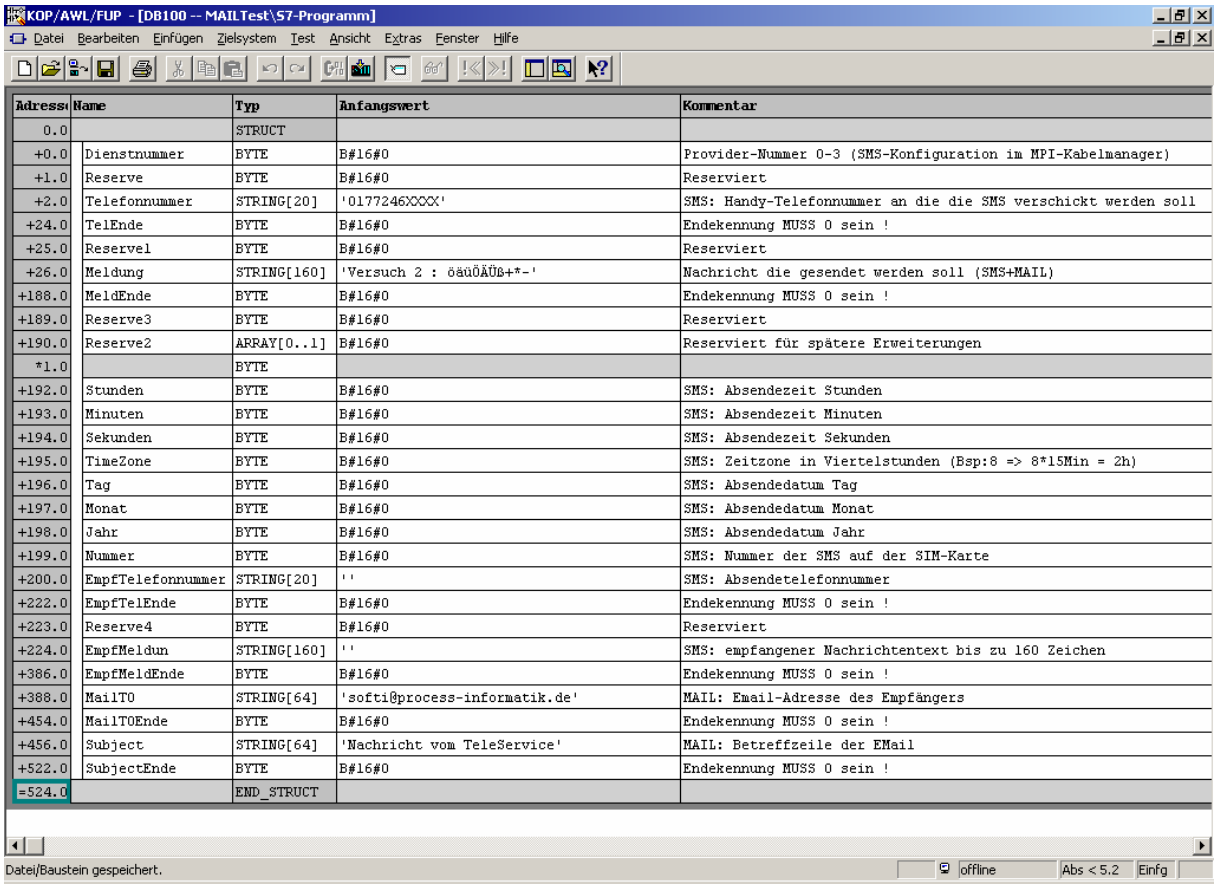
The communication-data-block has the following structure:



KOP/AWL/FUP - [DB100 -- MAILTest\S7-Programm]

Datei Bearbeiten Einfügen Zielsystem Test Ansicht Extras Fenster Hilfe

Adress	Name	Typ	Anfangswert	Kommentar
0.0		STRUCT		
+0.0	Dienstnummer	BYTE	B#16#0	Provider-Nummer 0-3 (SMS-Konfiguration im MPI-Kabelmanager)
+1.0	Reserve	BYTE	B#16#0	Reserviert
+2.0	Telefonnummer	STRING[20]	'0177246XXXX'	SMS: Handy-Telefonnummer an die die SMS verschickt werden soll
+24.0	TelEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+25.0	Reservel	BYTE	B#16#0	Reserviert
+26.0	Meldung	STRING[160]	'Versuch 2 : öäüÖÄÜß+*-'	Nachricht die gesendet werden soll (SMS+MAIL)
+188.0	MeldEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+189.0	Reserve3	BYTE	B#16#0	Reserviert
+190.0	Reserve2	ARRAY[0..1]	B#16#0	Reserviert für spätere Erweiterungen
*1.0		BYTE		
+192.0	Stunden	BYTE	B#16#0	SMS: Absendezeit Stunden
+193.0	Minuten	BYTE	B#16#0	SMS: Absendezeit Minuten
+194.0	Sekunden	BYTE	B#16#0	SMS: Absendezeit Sekunden
+195.0	TimeZone	BYTE	B#16#0	SMS: Zeitzone in Viertelstunden (Bsp:8 => 8*15Min = 2h)
+196.0	Tag	BYTE	B#16#0	SMS: Absendedatum Tag
+197.0	Monat	BYTE	B#16#0	SMS: Absendedatum Monat
+198.0	Jahr	BYTE	B#16#0	SMS: Absendedatum Jahr
+199.0	Nummer	BYTE	B#16#0	SMS: Nummer der SMS auf der SIM-Karte
+200.0	EmpfTelefonnummer	STRING[20]	''	SMS: Absendetelefonnummer
+222.0	EmpfTelEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+223.0	Reserve4	BYTE	B#16#0	Reserviert
+224.0	EmpfMeldun	STRING[160]	''	SMS: empfangener Nachrichtentext bis zu 160 Zeichen
+386.0	EmpfMeldEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+388.0	MailTO	STRING[64]	'softi@process-informatik.de'	MAIL: Email-Adresse des Empfängers
+454.0	MailTOEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
+456.0	Subject	STRING[64]	'Nachricht vom TeleService'	MAIL: Betreffzeile der EMail
+522.0	SubjectEnde	BYTE	B#16#0	Endekennung MUSS 0 sein !
=524.0		END_STRUCT		

Datei/Baustein gespeichert. offline Abs < 5.2 Einfg

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Off	data-type	Description
000	*BYTE*	*Provider-Number 0-3*
001	BYTE	Reserved
002	String[20]	Handy-phone-number which should get the SMS (max 20 Chars)
024	BYTE	End of phone-number (must be 00h)
025	BYTE	Reserved
026	*String[160]*	*EMAIL-Message*
188	BYTE	End of EMAIL-Message (must be 00h)
189	BYTE	Reserved
190	BYTE	Reserved
191	BYTE	Reserved
192	BYTE	Hour (00-24)
193	BYTE	Minutes (00-59)
194	BYTE	Seconds (00-59)
195	BYTE	Timezone (Quarter Elements)
196	BYTE	Day of month (01-31)
197	BYTE	Month (01-12)
198	BYTE	Year (00-99,Ex:06 = 2006)
199	BYTE	Number in SIM-Card Memory
200	String[20]	Phone-number which sent the SMS (max 20 Chars)
222	BYTE	End of phone-number (must be 00h)
223	BYTE	Reserved
224	String[160]	Received SMS-Message
386	BYTE	End of SMS-Message (must be 00h)
388	*String[64]*	*Destination E-Mailaddress of Reciever*
454	*BYTE*	*End of E-Mailaddress (must be 00h)*
456	*String[64]*	*Subject-line in the EMAIL*
522	*BYTE*	*End of Subject-line (must be 00h)*

The data-bytes 0 to 191 and 388 ro 522 are read, the data-bytes 192 to 225 are written from TELESERVICE.

The lines written in *cursive* Typefont are needed for sending the EMail.

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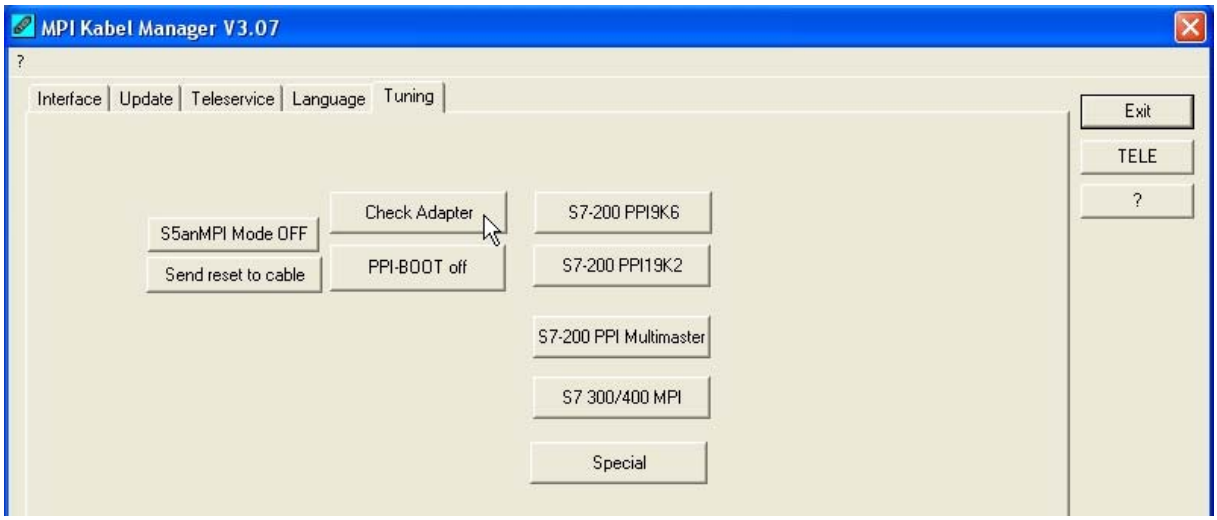
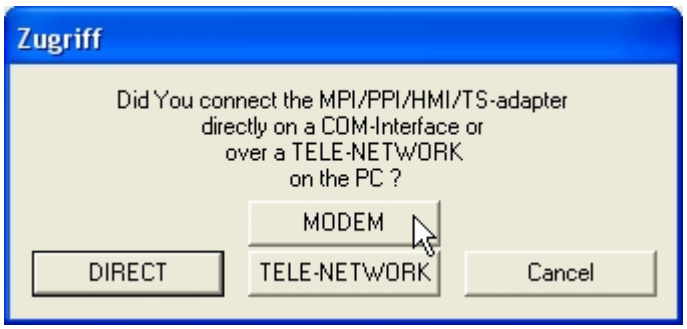
1.9 S7-22x over modem-connection

Example:
TeleService/MPI-Modem to S7-22X over Modem-connection

Start the MPI-Kabelmanager and select the tab “Tuning”:



Press the button “Check Adapter”. The dialog, in which you can select your connection-type, will be opened. In our case it will be a modem-connection:



Select “MODEM” for a modem-connection, select “DIRECT” if the TeleService is connected via USB or the TeleService / MPI-Modem is connected via serial port (skip next page).

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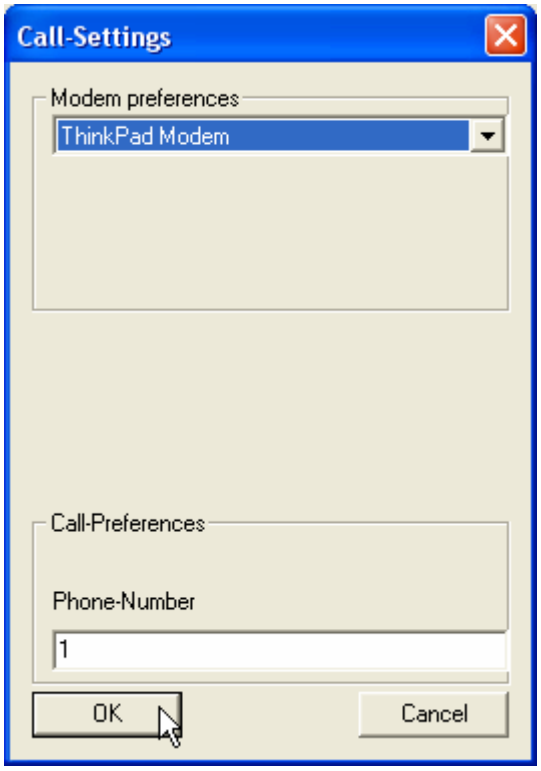
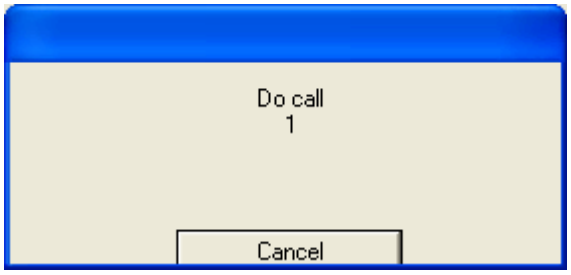
A dialog in which the TeleService / MPI-Modem will be called will appear:



Select the corresponding modem and the phone number and press “OK” to start the phone call. A report dialog will appear:



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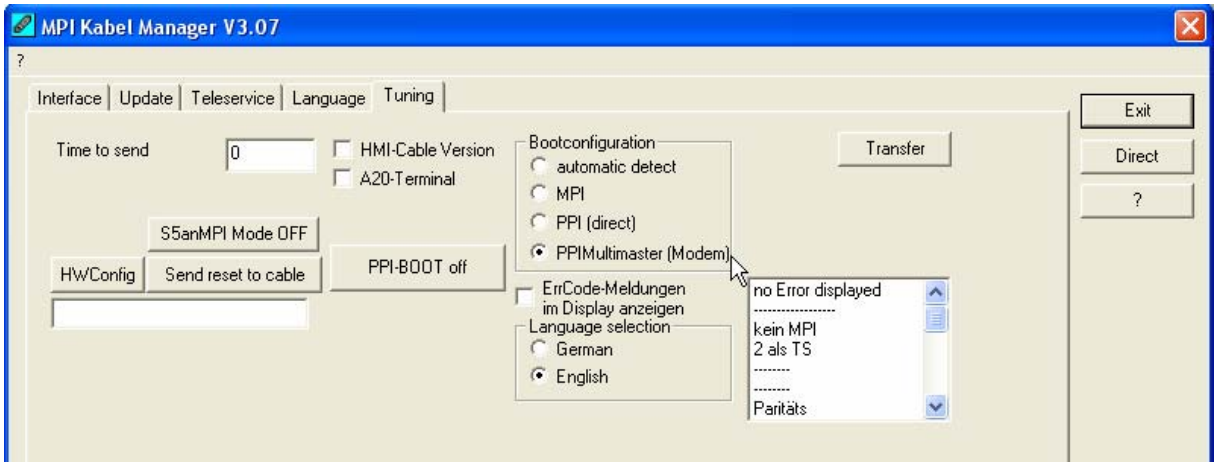
After successfully establishing the connection following dialog will appear:



Select the option “PPIMultimaster (Modem)” in the section “Bootconfiguration” after that click “Transfer” and Exit the Kabelmanager Software. The connection will be closed automatically.

Start the Micro Win-Software V4.0 and select the Communication-Settings:

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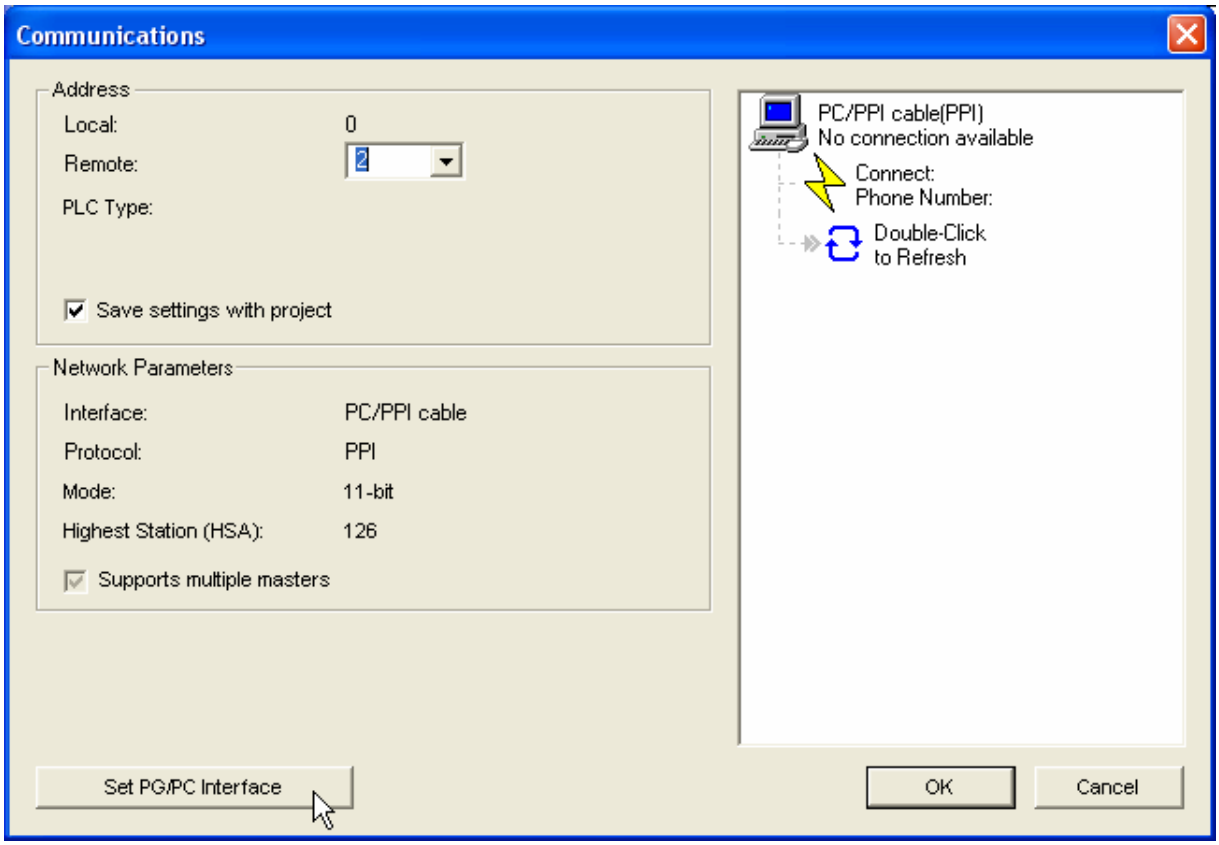
The following dialog will appear:



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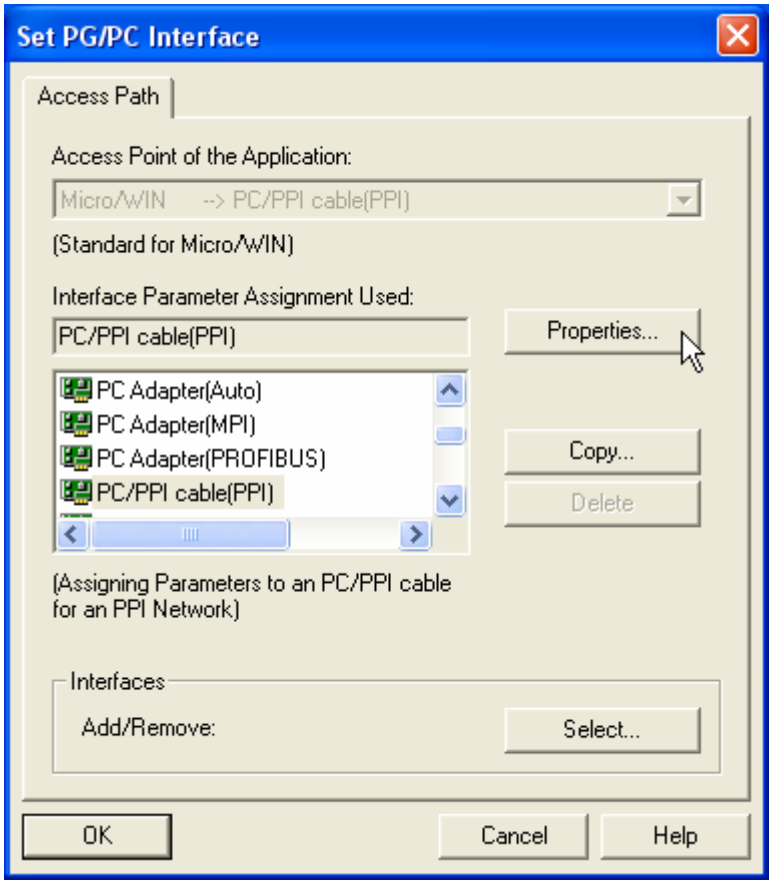
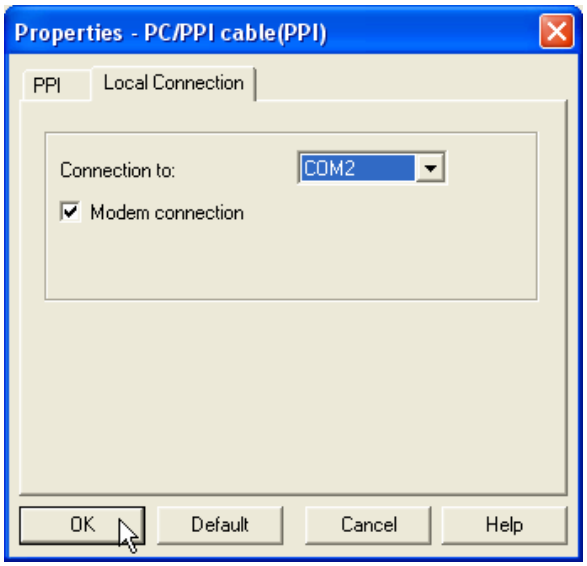
By clicking “Set PG/PC Interface” a driver selection dialog will appear:



Select “PC/PPI cable(PPI)” and click “Properties”. First select the tab “Local Connection”, select the COM-Port of your modem and set the option “Modem connection”:



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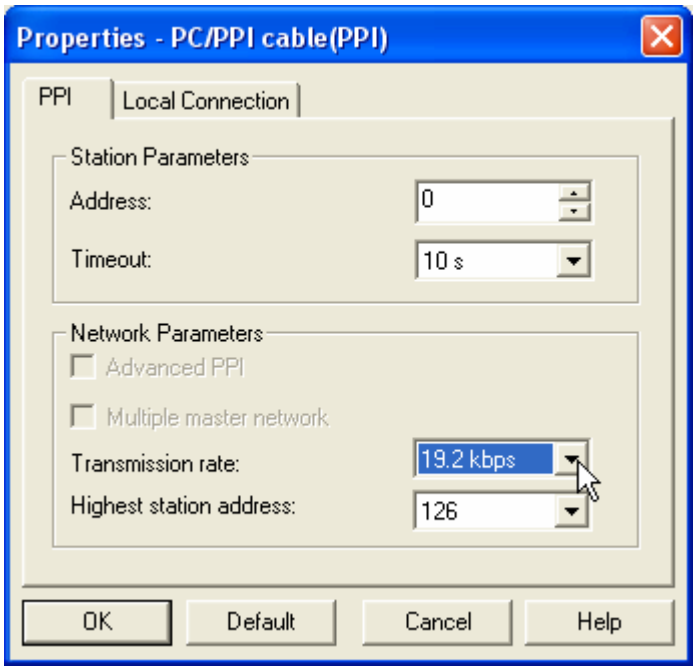
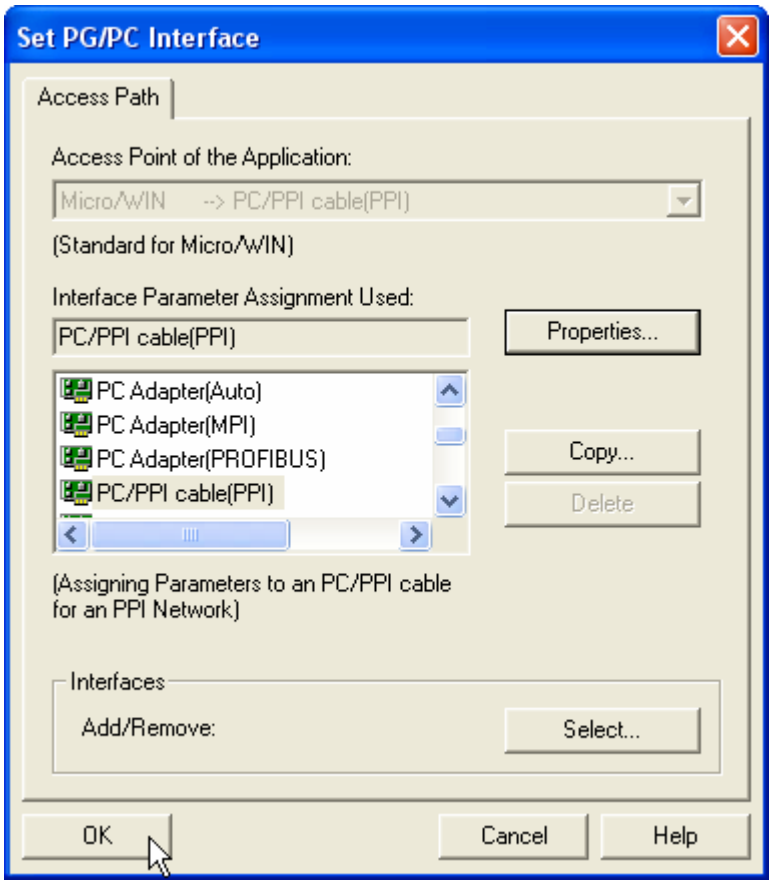
After that check the PPI-transmission rate



Submit the settings by clicking “OK”:



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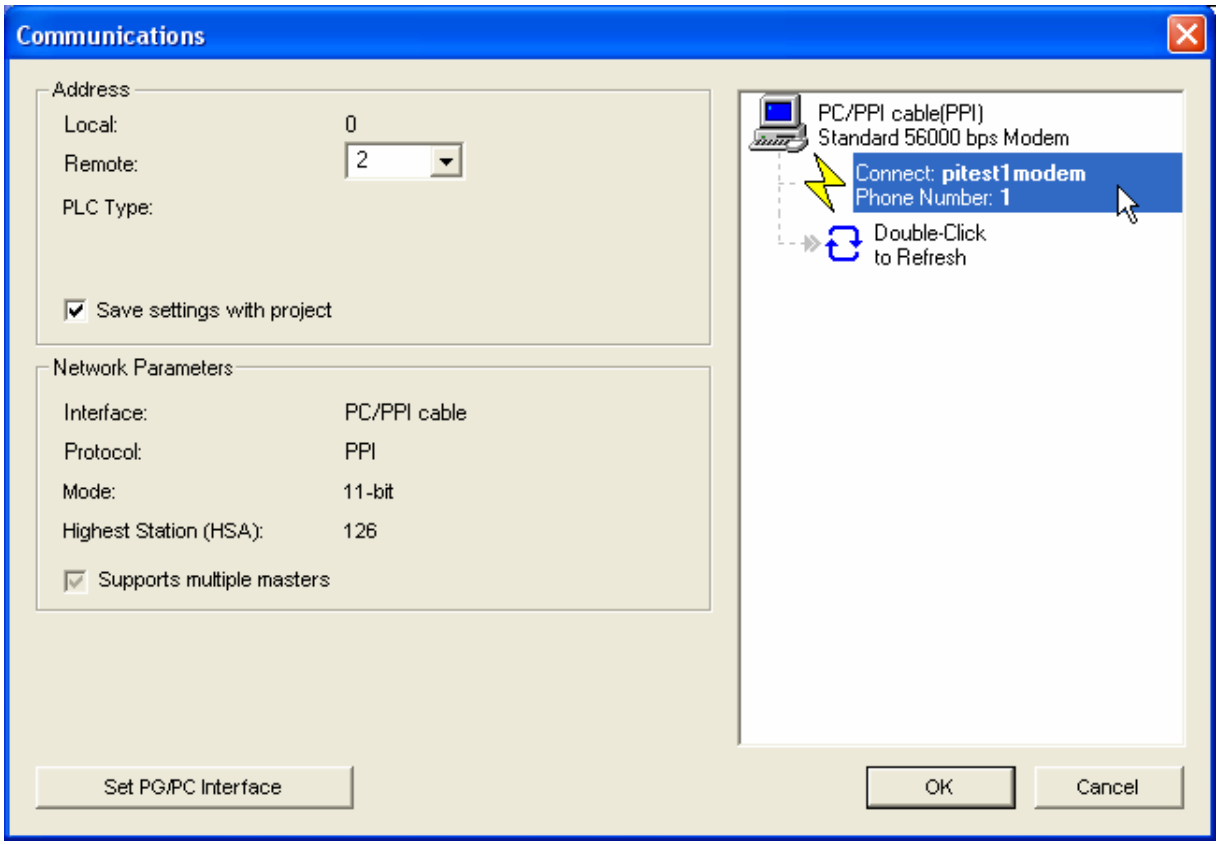
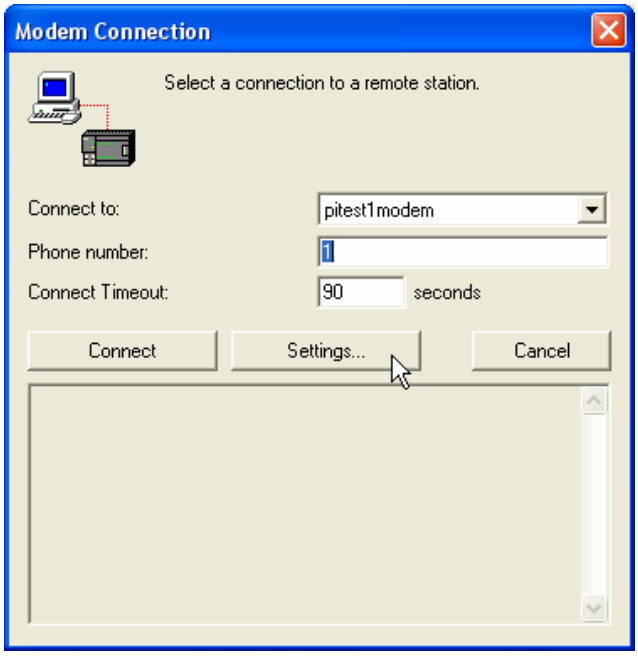
After that the following Display should be on your screen:



After double-clicking “Connect” the following dialog will appear:



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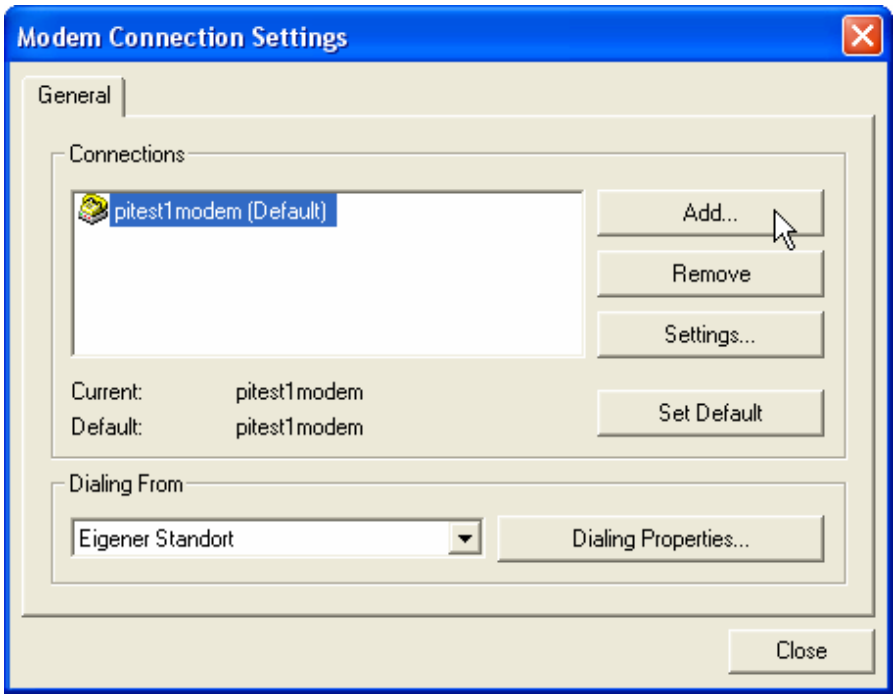
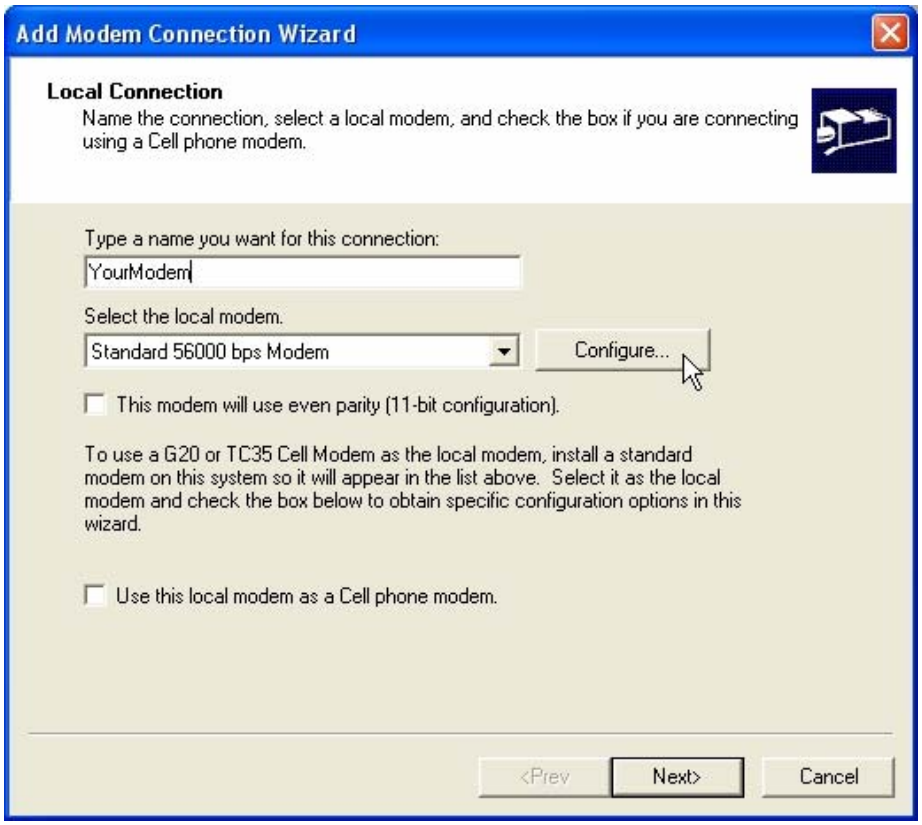
Press “Settings” to add a new modem:



Press “Add” to open the following dialog, in which you enter a useful name and press “Configure”


Add Modem Connection Wizard
Local Connection
Name the connection, select a local modem, and check the box if you are connecting using a Cell phone modem.
Type a name you want for this connection:
YourModem
Select the local modem.
Standard 56000 bps Modem
Configure...
This modem will use even parity (11-bit configuration).
To use a G20 or TC35 Cell Modem as the local modem, install a standard modem on this system so it will appear in the list above. Select it as the local modem and check the box below to obtain specific configuration options in this wizard.
Use this local modem as a Cell phone modem.
<Prev
Next>
Cancel

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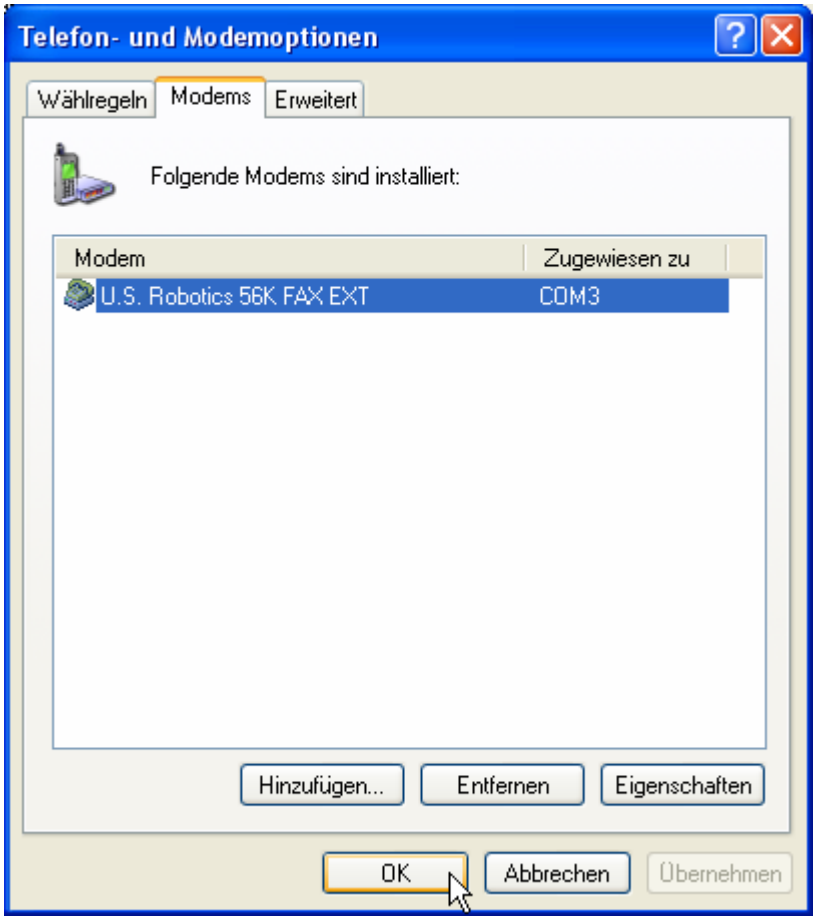
In the following dialog select your modem with the corresponding COM Port and confirm by clicking “OK”



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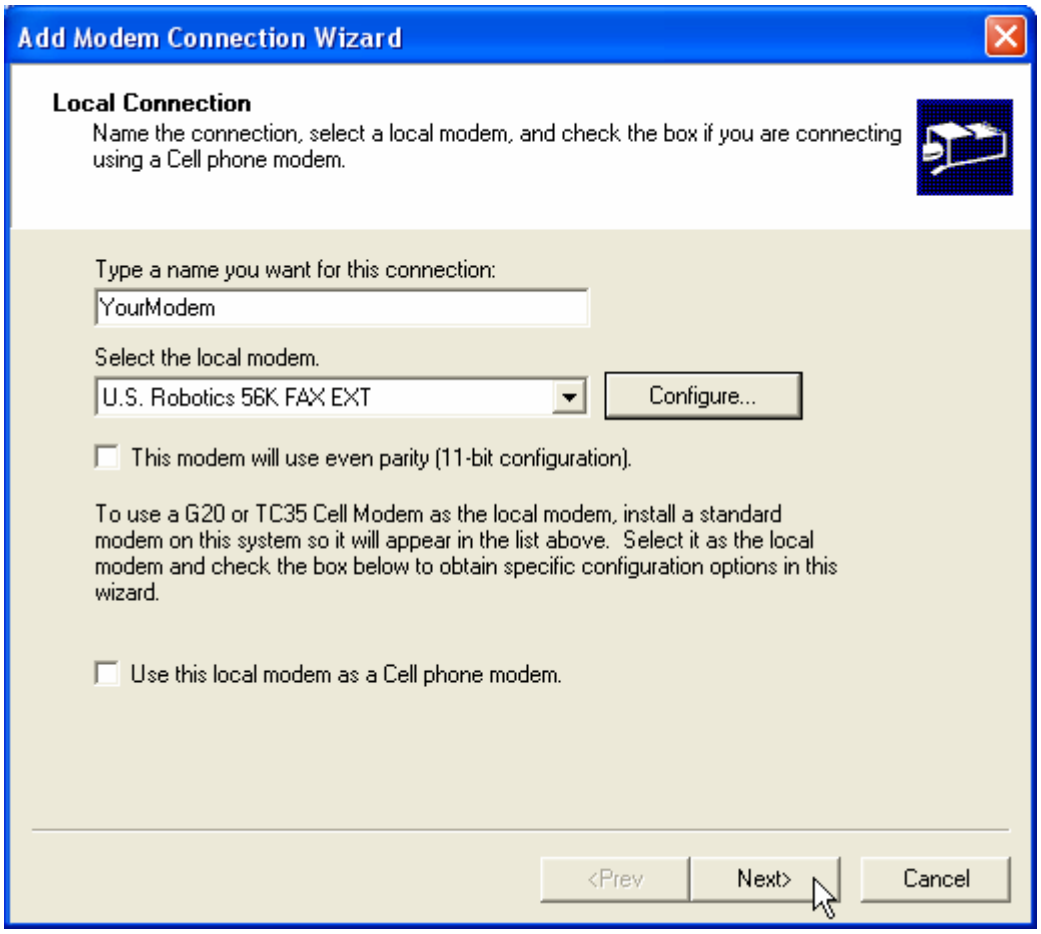
Confirm the Settings by pressing “Next”


Add Modem Connection Wizard
Local Connection
Name the connection, select a local modem, and check the box if you are connecting using a Cell phone modem.
Type a name you want for this connection:
YourModem
Select the local modem.
U.S. Robotics 56K FAX EXT
Configure...
This modem will use even parity (11-bit configuration).
To use a G20 or TC35 Cell Modem as the local modem, install a standard modem on this system so it will appear in the list above. Select it as the local modem and check the box below to obtain specific configuration options in this wizard.
Use this local modem as a Cell phone modem.
<Prev
Next>
Cancel

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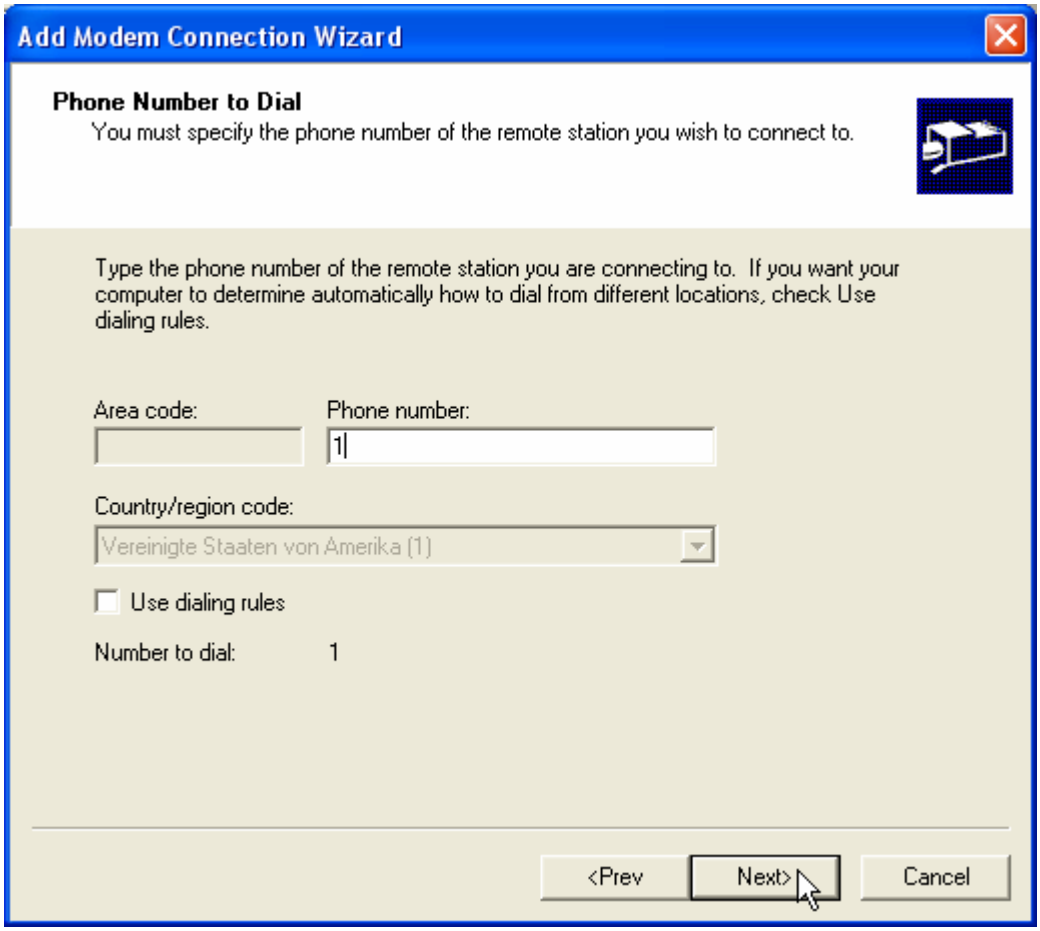
The following dialog will appear in which you enter the phone number which should be dialled and confirm by clicking “Next”


Add Modem Connection Wizard
Phone Number to Dial
You must specify the phone number of the remote station you wish to connect to.
Type the phone number of the remote station you are connecting to. If you want your computer to determine automatically how to dial from different locations, check Use dialing rules.
Area code:
Phone number:
1
Country/region code:
Vereinigte Staaten von Amerika (1)
Use dialing rules
Number to dial: 1
<Prev
Next>
Cancel

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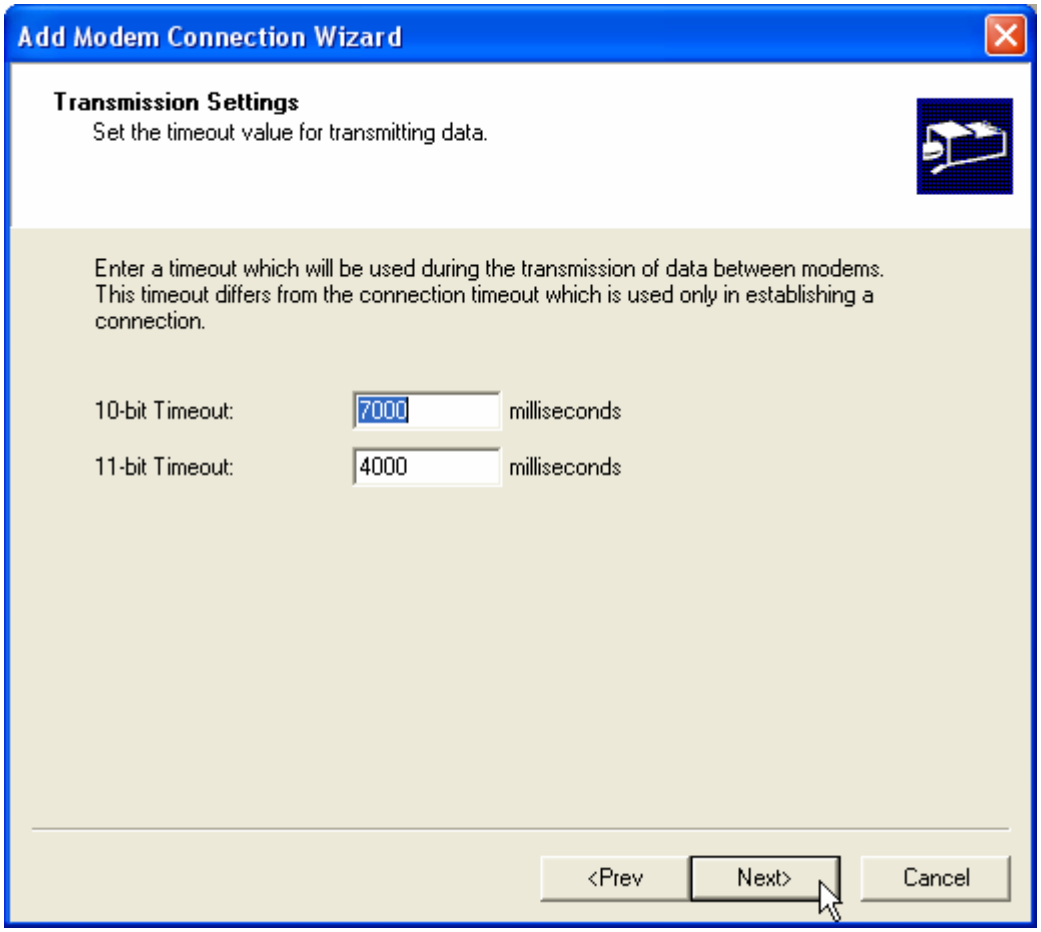
The dialog in which you can define the timeouts will appear and will be confirmed by clicking “Next”, too.


Add Modem Connection Wizard
Transmission Settings
Set the timeout value for transmitting data.
Enter a timeout which will be used during the transmission of data between modems. This timeout differs from the connection timeout which is used only in establishing a connection.
10-bit Timeout:
7000
milliseconds
11-bit Timeout:
4000
milliseconds
<Prev
Next>
Cancel

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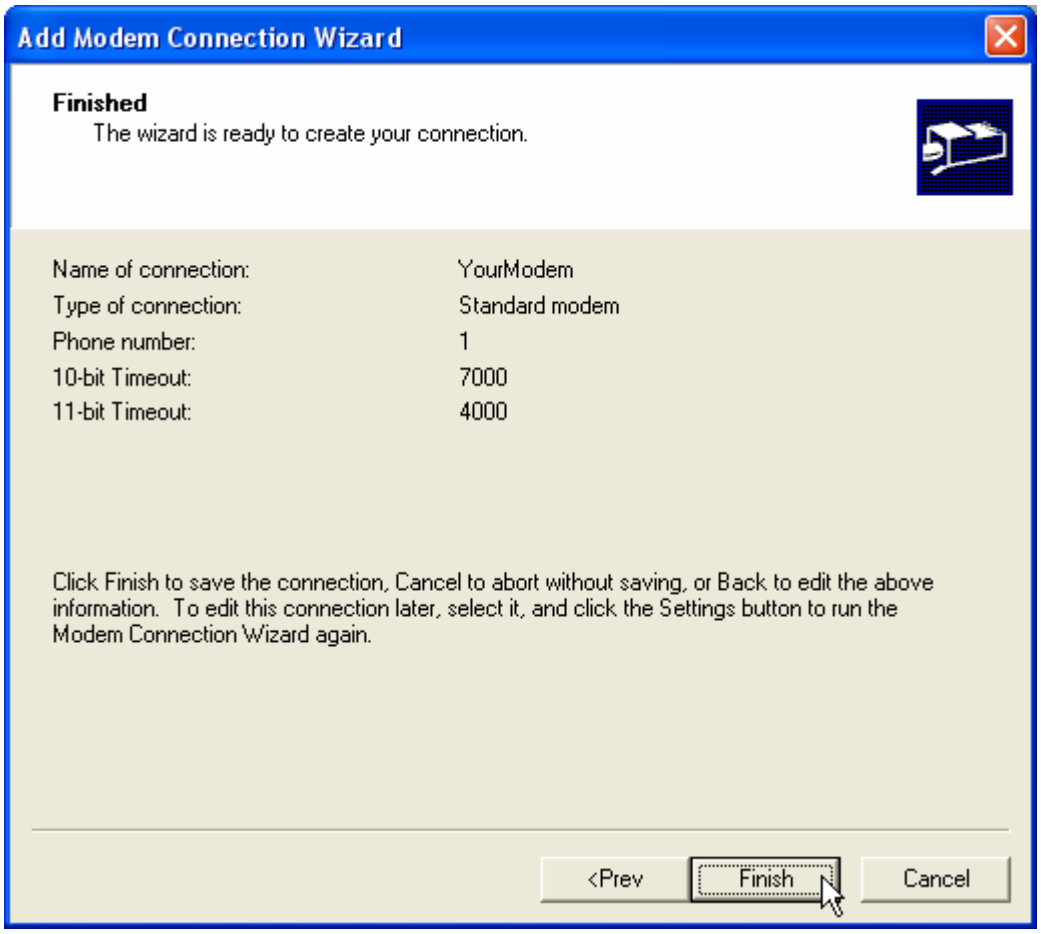
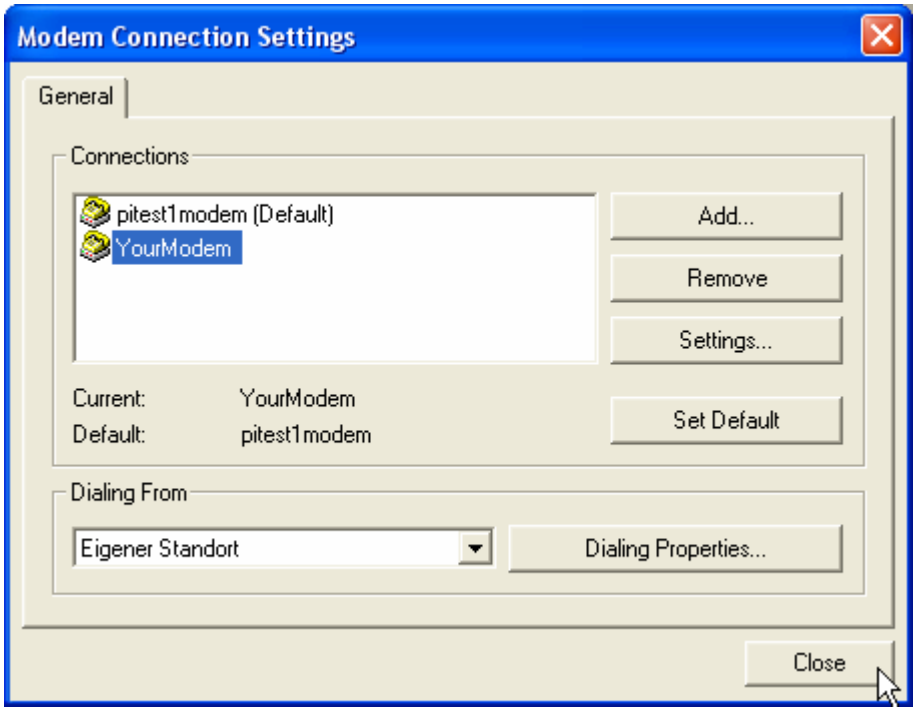
Now check the summary and confirm by clicking “Finish”:


Add Modem Connection Wizard
Finished
The wizard is ready to create your connection.
Name of connection:
YourModem
Type of connection:
Standard modem
Phone number:
1
10-bit Timeout:
7000
11-bit Timeout:
4000
Click Finish to save the connection, Cancel to abort without saving, or Back to edit the above information. To edit this connection later, select it, and click the Settings button to run the Modem Connection Wizard again.
<Prev
Finish
Cancel

Select your modem and click “Close”



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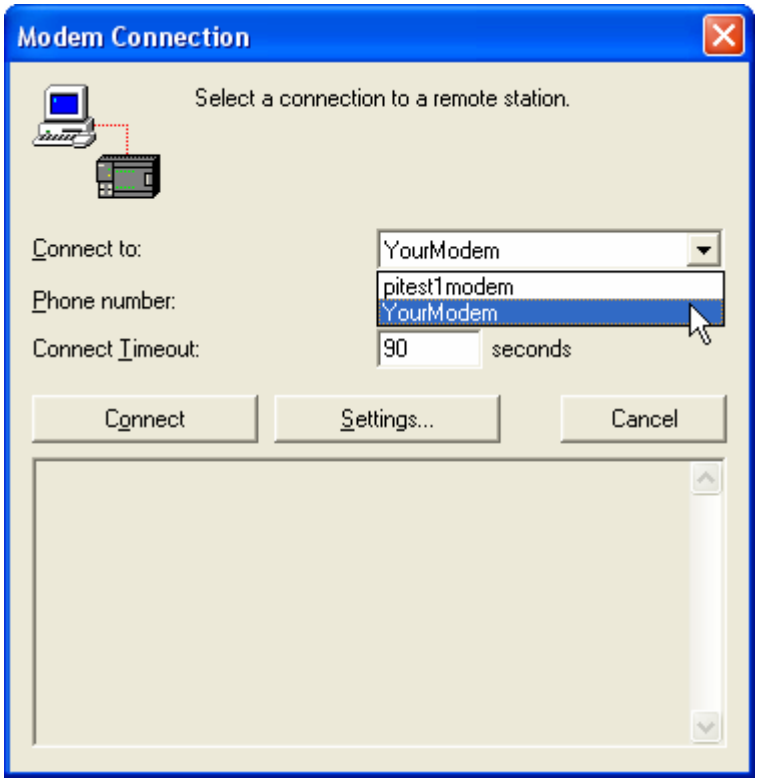
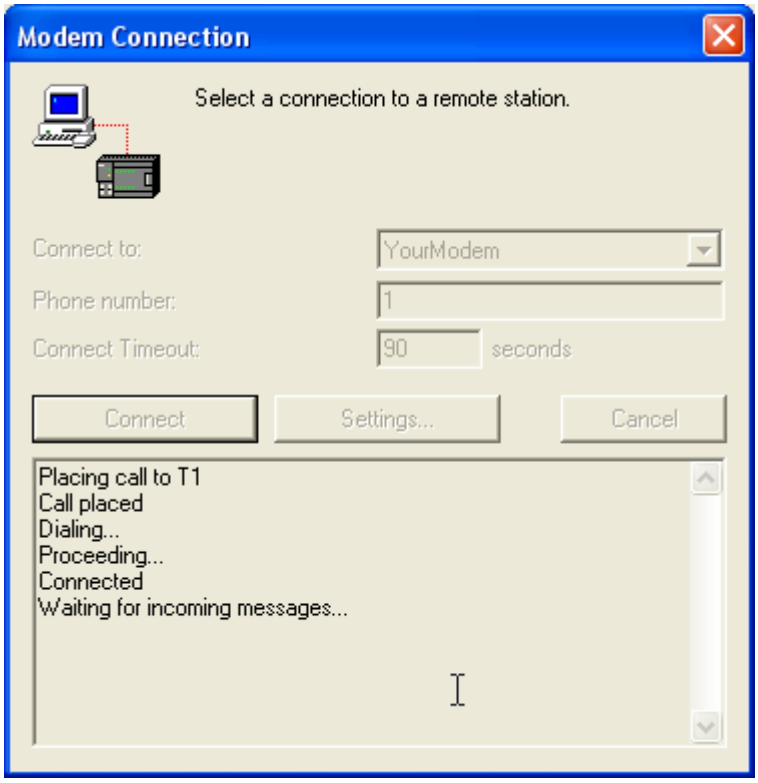
Now your modem will appear in the next dialog. Select your modem and press “Connect”



Now a connection is establishing



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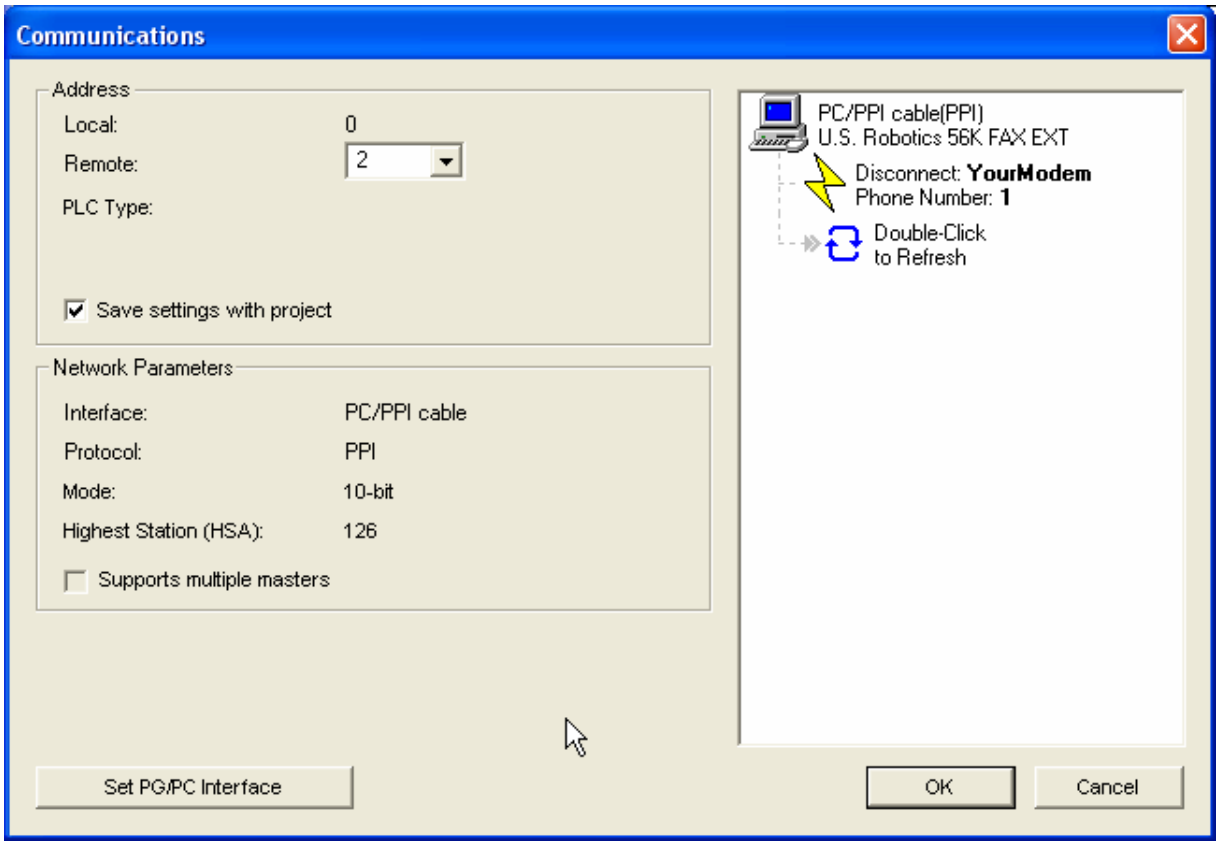
After a short while the connection is established:



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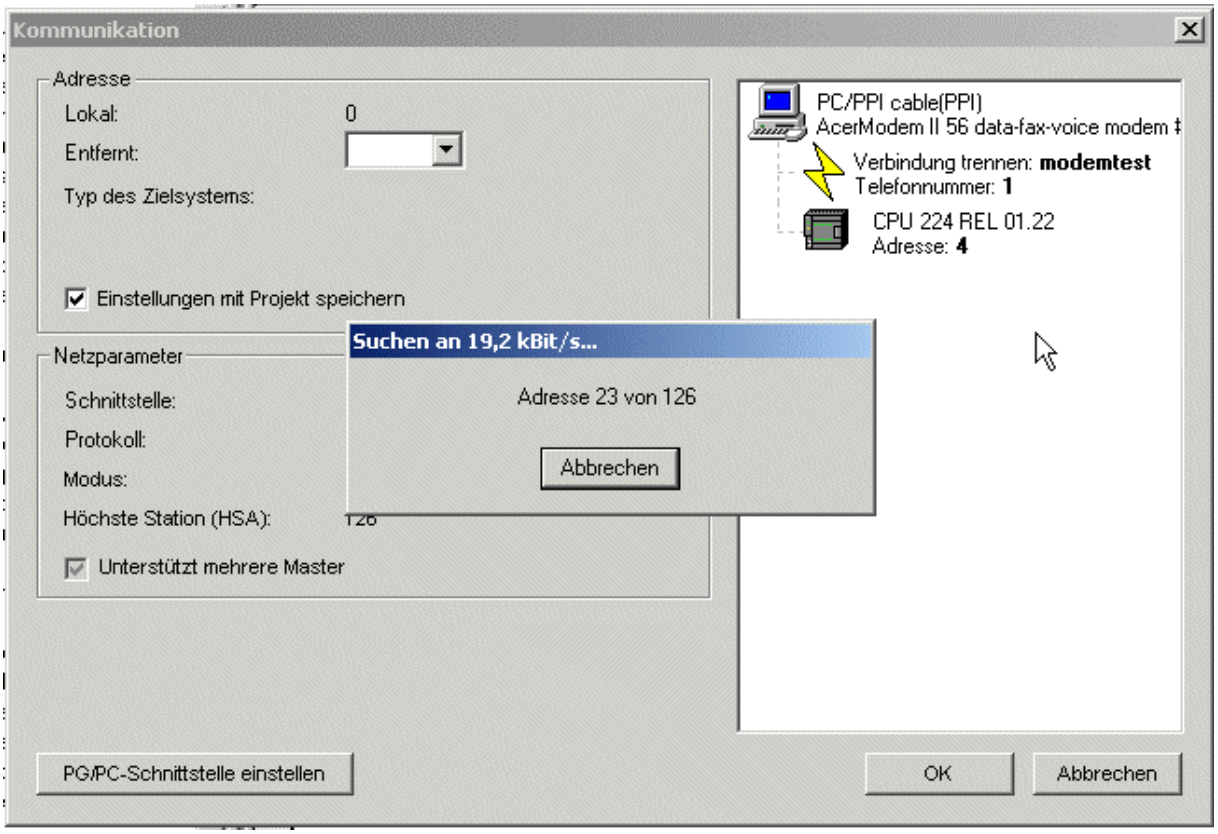
By double-clicking you can search the CPU(s) via modem-connection:



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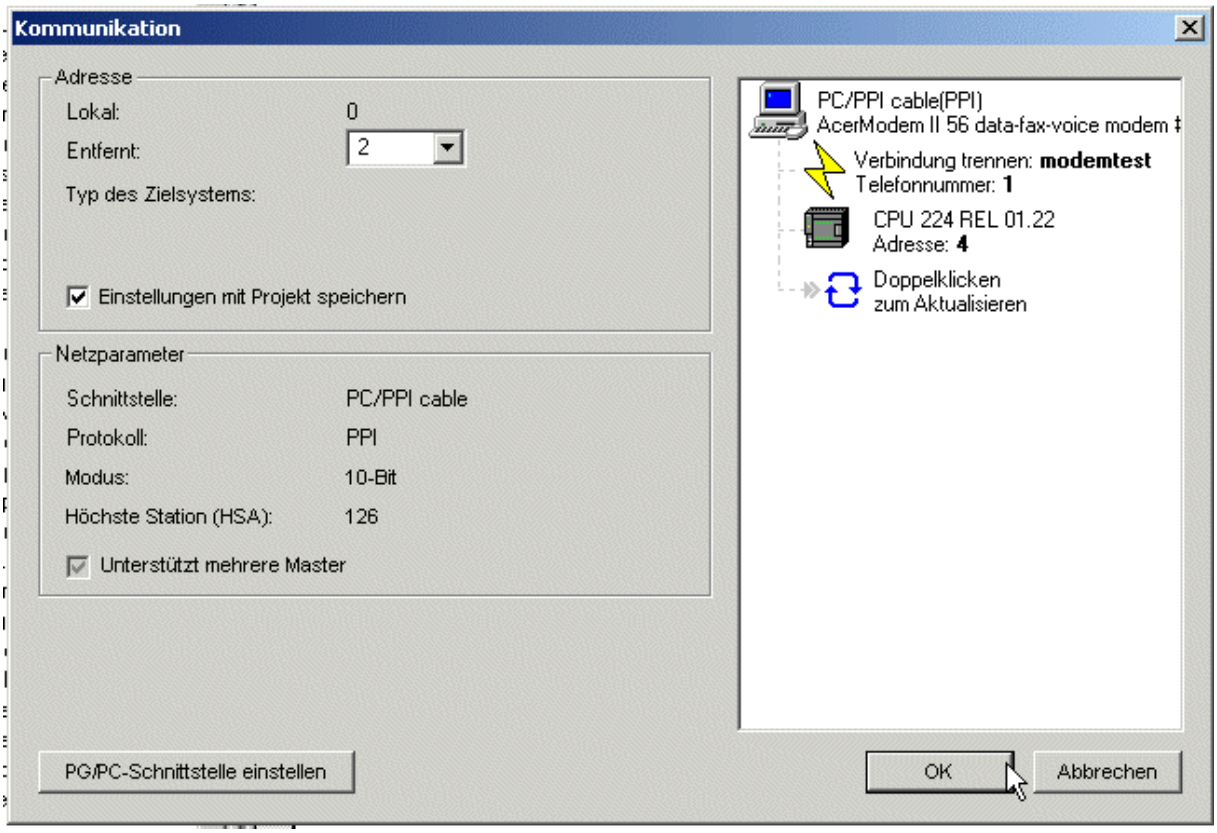
After that you can work with the detected controller as usual.



To terminate the connection double-click on “Disconnect” and press the button “Disconnect”

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1.10 FAQs

Question:
I have the problem, that I can't implement a remote maintenance over a modem which is connected to my PC over a USB-serial-converter. What can I do?

Answer:
Many of the USB-serial-converters which are available on the market can not emulate all signals of a real serial port. Concerning this you can buy an alternative from us:

Notation : USB-Serial-Converter
Article number : 9359-1-RS232

Question:
I'm using a notebook with an integrated modem as programming device. Due the remote maintenance over TeleService I sometimes loose connection.

Answer:
According to the specification the carrier frequency should be constant. Some notebook soft modems neglect that. They are mainly designed for surfing the internet, where the frequency is given by the provider. Our suggestion is to use an external modem instead.

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Question:
The connection to the system modem can not be established, although I get a signal when I call the GSM-Modem.

Answer:
Make sure that the CSD-Protocol is activated for your SIM-Card and you have dialled the correct number. For further information see Chapter *1.5.1 SIM-Card selection* in the TeleService Handbook.

Question:
Can SIM-Cards, which are usually used for phone-calls with a cell-phone, be used for remote maintenance with the TeleService GSM?

Answer:
The CSD-Protocol must be activated for the SIM-Card, which is necessary to enable incoming data transmission. Usually the CSD-Protocol is not activated on SIM-Cards, which are being used for phone-calls, but can be done later on.

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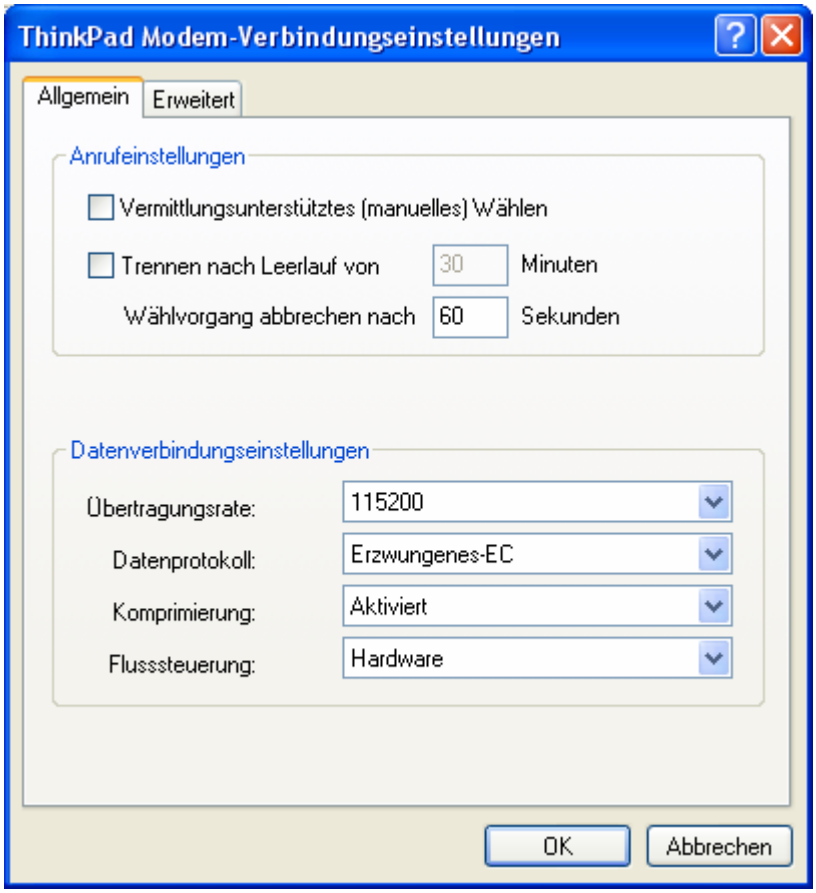
Question:
I use the operating system Windows 2000. Once in a while the connection cuts off.

Antwort:
In a connection without error-check it may happen very often that the connection gets killed. That's why you should set data-protocol to "Forced-EC" under Modem-Settings in your TeleService Software:



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Question:
Is the previous state defined after taking back the request-flag-byte or do I have to wait a little bit before resetting?

Answer:
The TeleService enters the state before deleting the request in the command-byte.

Example:

MW254	01xxh
then	0180h
then	0080h

So there is no waiting-time after deleting the command-byte.

Question:
What does the TeleService do when the communication-flag-word is set to null by the controller while a request is being executed?

Answer:
While a request is being executed the CPU has no permission to change the communication flag-word.
Exception: During DTMF- reception it is possible to change the flag-word MW254 to 2000h. In this case the state-byte will be set to C0h.

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Question:
Is the previous state-byte always set to 76h or 80h while sending or are other values like 73h possible, too?

Answer:
The following feedbacks are possible:

71h = unknown Provider
72h = Communication with the Provider Timed out
73h = SMS-Provider has returned an error or did not answer.
74h = Provider CallCenter not possible
76h = SMS Message could not be sent.

Question:
Is it possible to send SMS if the memory of the SIM-Card is full with unread messages?

Answer:
With TAP and UCP a number of a service provider (SMS) is dialled. The communication will be executed over the corresponding protocol (independent whether GSM, ISDN or analogue). It is only a data-connection. With GSM the message will not be created in the message-buffer of the SIM-Card (sent objects) but directly transmitted to the GSM-Modem. So sending a message is also possible with a full receive-buffer.

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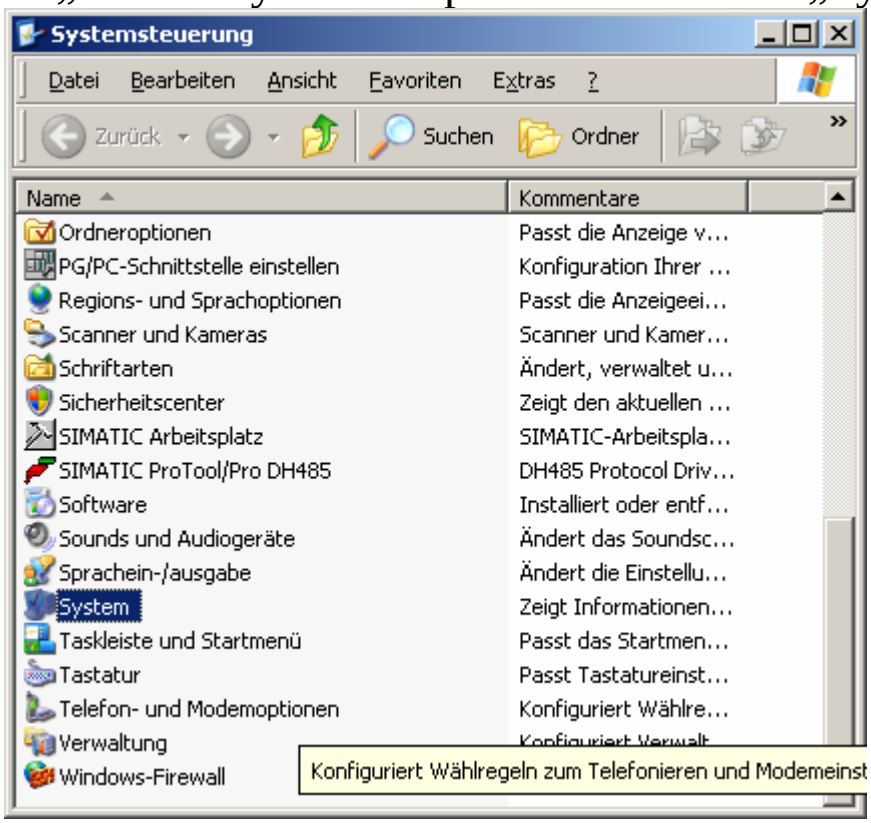
Question:
What do I have to follow when I want to call your technical support?

Answer:
Please hold every relevant data about the constellation of your system with the connected participants and program modules ready.

1.11 Limiting Connection Speed from the PC-Side

If you encounter transfer-problems or you want to use a GSM-connection (9600), you could limit the connection-speed. Insert in the Properties of the Modem a so-called „AT“-Command. **This Command is modem-type specific**.

In „Start“/“System Properties“ click onto „System“.



Select the tab „Hardware“ and then click onto „Device-Manager“.

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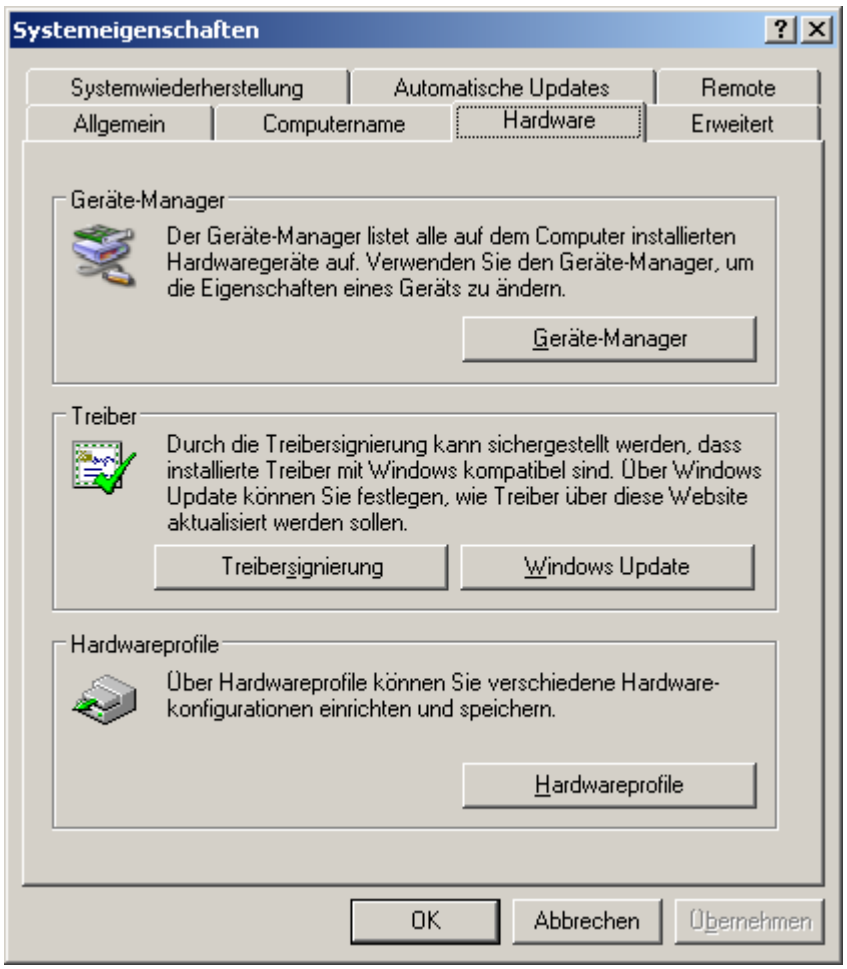
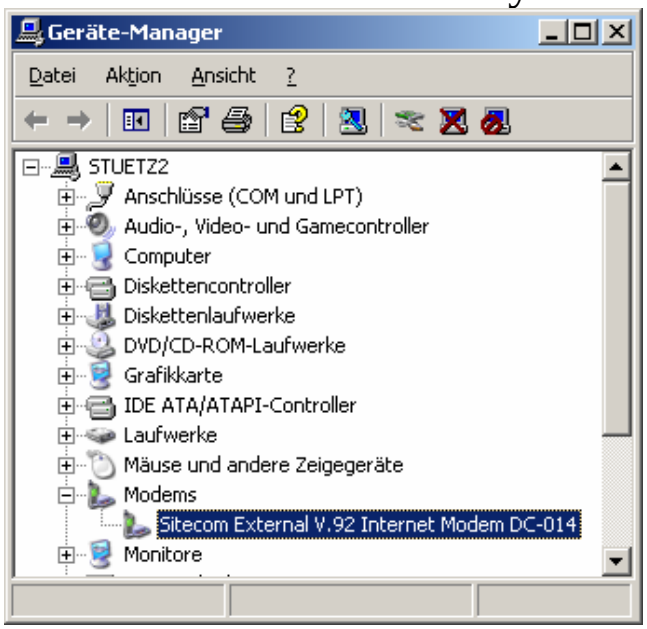


In the Tree-List, open „Modems“ and choose „Properties“ from the context-menu of your Modem.



In the next dialog select the tab „Extended“ in which you could enter the additional commands without the preceeding „AT“.

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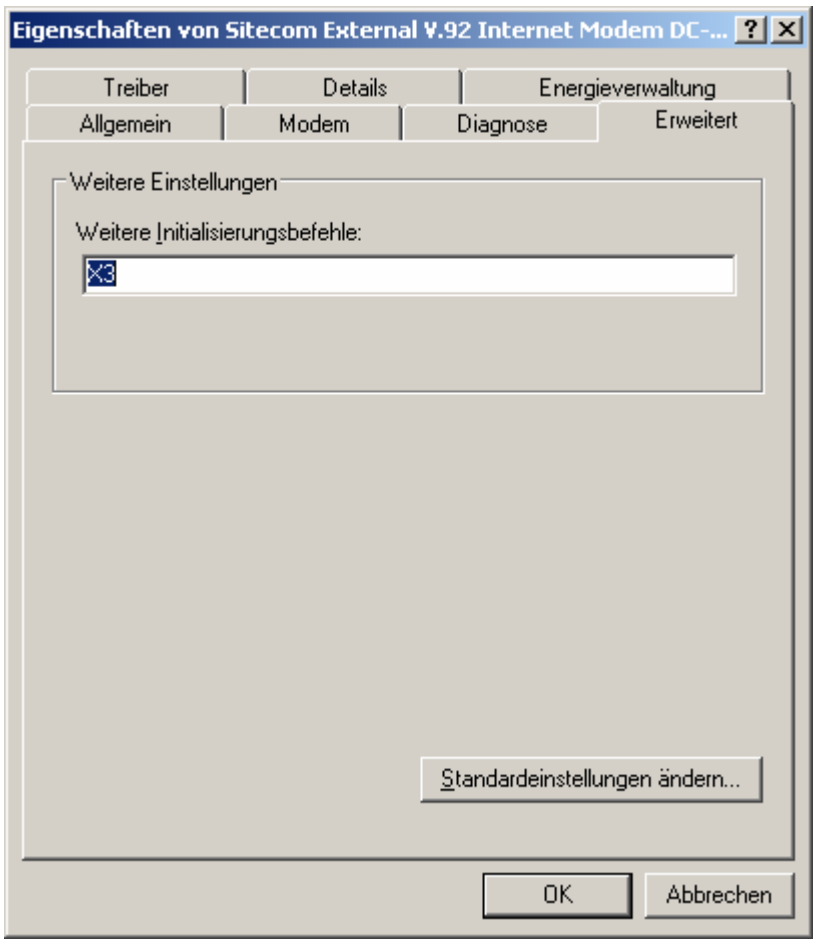

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In the following some Properties for the mentioned modems, **this list is not exact or complete or error-free**, in doubt look into the AT-Command-Set or contact your local dealer.

1.11.1 3Com/USR Modems

&U<n>
lower connection-speed

&N<n>
upper connection-speed, when used alone (without &U) the connection is only established with the selected baudrate

<n> Modemtype V.90

<n>	Bps	<n>	bps
0	Automatic	20	32000
1	300	21	33333
2	1200	22	34666
3	2400	23	36000
4	4800	24	37333
5	7200	25	38666
6	9600	26	40000
7	12000	27	41333
8	14400	28	42666
9	16800	29	44000
10	19200	30	45333
11	21600	31	46666
12	24000	32	48000
13	26400	33	49333
14	28800	34	50666
15	31200	35	52000
16	33600	36	53333
17	28000	37	54666
18	29333	38	56000
19	30666	39	57333

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Modemtype V.92

<n>	Bps	<n>	bps
0	Automatic	17	33333
1	300	18	37333
2	1200	19	41333
3	2400	20	42666
4	4800	21	44000
5	7200	22	45333
6	9600	23	46666
7	12000	24	48000
8	14400	25	49333
9	16800	26	50666
10	19200	27	52000
11	21600	28	53333
12	24000	29	54666
13	26400	30	56000
14	28800	31	57333
15	31200	32	64000
16	33600		

1.11.2 ESS (Teledrive) Modems

+MS=<mod>,<auto>,<min>,<max>

<mod> Modulation

<mod>	Modulation
0	V.21
1	V.22
2	V.22bis
9	V.32
10	V.32bis
11	V.34
17	V.90
64	Bell 103

<auto> Automatic mode

<auto>	Description
1	Use Automatic detection
0	Use manual settings

<min> Baudrate 300...57333bps

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<max> Baudrate 300...57333bps

1.11.3 PCTel based Modems

n0s37=<mod>
Modulation-type

s34=<n>
Baudrate

<mod> Modulation

<mod>	Modulation
14	V.90
13	56Kflex

<n> Modemtype V.90

<n>	bps	<n>	bps
0	28000	11	42666
1	29333	12	44000
2	30666	13	45333
3	32000	14	46666
4	33333	15	48000
5	34666	16	49333
6	36000	17	50666
7	37333	18	52000
8	38666	19	53333
9	40000	20	54666
10	41333	21	56000

Modemtype 56KFlex

<n>	Bps	<n>	Bps
0	32000	7	46000
1	34000	8	48000
2	36000	9	50000
3	38000	10	52000
4	40000	11	54000
5	42000	12	56000
6	44000		

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1.11.4 TOPIC Chipsatz Modems

*i<n>
maximal Connection-speed

<n> Modemtype V.34 and less

<n>	Bps	<n>	Bps
0	1200	9	21600
1	2400	10	24000
2	4800	11	26400
3	7200	12	28800
4	9600	13	31200
5	12000	14	33600
6	14400	19	31200
7	16800	20	33600
8	19200		

Modemtype V.90

<n>	bps	<n>	bps
1	28000	12	42666
2	29333	13	44000
3	30666	14	45333
4	32000	15	46666
5	33333	16	48000
6	34666	17	49333
7	36000	18	50666
8	37333	19	52000
9	38666	20	53333
10	40000	21	54666
11	41333	22	56000

1.11.5 Broadcom BCM Modem

S61=<maxtx>
Maximal upstream connection-speed

S37=<maxrx>
Maximal downstream connection-speed

<maxtx> Maximal upstream connection-speed

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<n>	Bps	<n>	bps
0	Automatic	13	41333
3	28000	14	42666
4	29333	15	44000
5	30666	16	45333
6	32000	17	46666
7	33333	18	48000
8	34666	19	49333
9	36000	20	51333
10	37333	21	52000
11	38666	22	53333
12	40000		

<maxrx> Maximal downstream connection-speed

<n>	Bps	<n>	bps
0	Automatic	13	16800
1	300	14	19200
5	1200	15	21600
6	2400	16	24000
8	4800	17	26400
9	9600	18	28800
10	12000	19	31200
11	14400	20	33600
12	7200		

1.11.6 Lucent/Agere based Modems

+MS=<mod>,<auto>,0,<up>,0,<down>

<mod> Modulation

<mod>	Modulation
V21	V.21
V22	V.22
V22B	V.22bis
V23	V.23
V32B	V.32bis
V34	V.34
V90	V.90
56K	56Kflex
V92	V.92

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<auto> Automatic - Mode

<auto>	Description
1	Automatic detection of the connection speed
0	Use manual settings

<up> minimal downstream connection-speed

<up>	Description
0	Automatic
300...33600	Depends on <mod>

<down> maximal upstream connection-speed

<down>	Description
0	Automatic
300...56000	Depends on <mod>

AMR und SoftModems

+MS=<mod>,<auto>,<mindown>,0,<maxdown>

<mod> Modulation

<mod>	Modulation
V21	V.21
V22	V.22
V22B	V.22bis
V23	V.23
V32B	V.32bis
V34	V.34
V90	V.90
56K	56Kflex
V92	V.92

<auto> Automatic - Mode

<auto>	Description
1	Automatic detection of the connection speed
0	Use manual settings

<mindown> minimal downstream connection-speed

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<mindown>	Description
0	Automatic
300...33600	Depends on <mod>

<maxdown> maximal upstream connection-speed

<maxdown>	Description
0	Automatic
300...56000	Depends on <mod>

Older Modems

-V90=<n>

<n> Baudrate

<n>	Bps	<n>	bps
0	Disable V.90	12	41333
1	Automatic	13	42666
2	28000	14	44000
3	29333	15	45333
4	30666	16	46666
5	32000	17	48000
6	33333	18	49333
7	34666	19	50666
8	36000	20	52000
9	37333	21	53333
10	38666	22	54666
11	40000	23	56000

1.11.7 Rockwell/Connexant based Modems

No HCF and Soft56 Modems

+MS=<mod>,<auto>,<min>,<max> …

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<mod> Modulation

<mod>	Modulation
12	V.90
56	K56Flex
11	V-34

<auto> Automatic - Mode

<auto>	Description
1	Automatic detection of the connection speed
0	Use manual settings

<min> minimal connection-speed
<max> maximal connection-speed
300 ... 56000 (Depends on <mod>)

HCF or Soft56 Modems

+MS=<mod>,<auto>,<mintx>,<maxtx>,<minrx>,<maxrx>

<mod> Modulation

<n>	Modulation
V90	V.90
K56	K56Flex
V34	V-34

<auto> Automatic - Mode

<auto>	Description
1	Automatic detection of the connection speed
0	Use manual settings

<minrx> minimal downstream connection-speed
<maxrx> maximal downstream connection-speed
<mintx> minimal upstream connection-speed
<maxtx> maximal upstream connection-speed
300 ... 56000 (Depends on <mod> and Destination)

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1.11.8 VIA Chipsatz Modems

%B<n>
maximal connection-speed

%L<n>
minimal connection-speed

<n> Baudrate

<n>	Bps	<n>	bps
0	Automatic	27	48000
1	300	28	50000 (56KFlex)
2	1200	29	52000
3	2400	30	54000 (56KFlex)
4	4800	31	56000
6	9600	32	58000 (56KFlex)
9	14400	33	60000
11	16800	34	28000 (V.90)
12	19200	35	29333 (V.90)
13	21600	36	30666 (V.90)
14	24000	37	33333 (V.90)
15	26400	38	34666 (V.90)
16	28800	39	37333 (V.90)
17	31200	40	38666 (V.90)
18	33600	41	41333 (V.90)
19	32000	42	42666 (V.90)
20	34000 (56KFlex)	43	45333 (V.90)
21	36000	44	46333 (V.90)
22	38000 (56KFlex)	45	49333 (V.90)
23	40000	46	50666 (V.90)
24	42000 (56KFlex)	47	53333 (V.90)
25	44000	48	54666 (V.90)
26	46000 (56KFlex)		

1.11.9 Cirrus/Ambient Modems

+MS=<mod>,<auto>,<mintx>,<maxtx>,<minrx>,<maxrx>

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<mod> Modulation

<n>	Modulation
BELL103	Bell 103
BELL212	Bell 212
V21	V.21
V22	V.22
V22B	V.22bis
V23	V.23
V32	V.32
V32B	V.32bis
V34	V.34
V34S	V.34 Version S
X2	X2
V90	V.90

<auto> Automatic - Mode

<auto>	Description
1	Automatic detection of the connection speed
0	Use manual settings

<minrx> minimal downstream connection-speed
0 Automatic, 2400,,,33600

<maxrx> maximal downstream connection-speed
0 Automatic, 2400,,,57600

<mintx> minimal upstream connection-speed
<maxtx> maximal upstream connection-speed
0 Automatic, 300,,,33600

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1.11.10 Motorola SM56 Modems

%B<n>

<n> Baudrate

<n>	Bps	<n>	bps
0	Automatic	27	48000
1	300	28	50000 (56KFlex)
2	1200	29	52000
3	2400	30	54000 (56KFlex)
4	4800	31	56000
6	9600	32	58000 (56KFlex)
9	14400	33	60000
11	16800	34	28000 (V.90)
12	19200	35	29333 (V.90)
13	21600	36	30666 (V.90)
14	24000	37	33333 (V.90)
15	26400	38	34666 (V.90)
16	28800	39	37333 (V.90)
17	31200	40	38666 (V.90)
18	33600	41	41333 (V.90)
19	32000	42	42666 (V.90)
20	34000 (56KFlex)	43	45333 (V.90)
21	36000	44	46333 (V.90)
22	38000 (56KFlex)	45	49333 (V.90)
23	40000	46	50666 (V.90)
24	42000 (56KFlex)	47	53333 (V.90)
25	44000	48	54666 (V.90)
26	46000 (56KFlex)		

1.11.11 Smartlink Modems

+MS=<mod>,<auto>,<min>,<max>

<mod> Modulation

<mod>	Modulation
90	V.90

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<auto> Automatic - Mode

<auto>	Description
1	Automatic detection of the connection speed
0	Use manual settings

<min> Baudrate 300...33600bps
<max> Baudrate 300...57333bps

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1.12 Technical Data

Description	Technical specifications
Dimensions without cables	40x125x115 mm (WxHxL)
Case type	ABS, V0
Interfaces to MPI-BUS to PC Antenna-connector (only GSM) Phone-Jack (only Analog) Phone-Jack (only ISDN)	 RS485 (19,2/93,5/187,5/500kBaud 1.5/3/6/12Mbaud) RS232 19,2 / 38,4 / 57,6 / 115,2kBaud USB 1.1 FME RJ-11/12 RJ45
Power-Supply	DC 24V +/- 20% Die 24 V externally supplied
Power disurpation	5 VA (Typ. I = 200mA at 24V)
Galvanic decoupling	The internal electronic (and RS232) to the bus driver and also to the 24V input are decoupled. The shield from the MPI/PPI side to the RS232 side are not connected through

Order Description

TELE-SERVICE with MPI/Profibus-cable and telephone lead

Analogue without DP	Order.No. 9377-ANALOG-OP
Analogue with DP	Order.No. 9377-ANALOG
ISDN without DP	Order.No. 9377- ISDN -OP
ISDN with DP	Order.No. 9377- ISDN
GSM without DP	Order.No. 9377-GSM-OP
GSM with DP	Order.No. 9377-GSM
GSM antenna	Order.No. 9379-ANT
Zero-modem-cable	Order.No. 9359.0
USB-cable A to B	Order.No. 9352.2

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1.13 Possible Countries of the TeleService Analogue

Afghanistan(AF)
Albania(AL)
Algeria(DZ)
American Samoa(AS)
Andorra(AD)
Angola(AO)
Anguilla(AI)
Antarctica(AQ)
Antigua and Barbuda(AG)
Argentina(AR)
Armenia(AM)
Aruba(AW)
Australia(AU)
Austria(AT)
Azerbaijan(AZ)
Bahamas(BS)
Bahrain(BH)
Bangladesh(BD)
Barbados(BB)
Belarus(BY)
Belgium(BE)
Belize(BZ)
Benin(BJ)
Bermuda(BM)
Bhutan(BT)
Bolivia(BO)
Bosnia and Herzegowina(BA)
Botswana(BW)
Bouvet Island(BV)
Brazil(BR)
British Indian Ocean Territory(IO)
Brunei Darussalam(BN)

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Bulgaria(BG)
Burkina Faso(BF)
Burundi(BI)
Cambodia(KH)
Cameroon(CM)
Canada(CA)
Cape Verde(CV)
Cayman Islands(KY)
Central African Republic(CF)
Chad(TD)
Chile(CL)
China(CN)
Christmas Island(CX)
Cocos (Keeling) Islands(CC)
Colombia(CO)
Comoros(KM)
Congo(CG)
Cook Islands(CK)
Costa Rica(CR)
Cote D'Ivoire(CI)
Croatia(HR)
Cuba(CU)
Cyprus(CY)
Czech Republic(CZ)
Denmark(DK)
Djibouti(DJ)
Dominica(DM)
Dominican Republic(DO)
East Timor(TP)
Ecuador(EC)
Egypt(EG)
El Salvador(SV)
Equatorial Guinea(GQ)
Eritrea(ER)
Estonia(EE)

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Ethiopia(ET)
Falkland Islands (Malvinas)(FK)
Faroe Islands(FO)
Fiji(FJ)
Finland(FI)
France(FR)
France-Metropolitan(FX)
French Guiana(GF)
French Polynesia(PF)
French Southern Territories(TF)
Gabon(GA)
Gambia(GM)
Georgia(GE)
Germany(DE)
Ghana(GH)
Gibraltar(GI)
Greece(GR)
Greenland(GL)
Grenada(GD)
Guadeloupe(GP)
Guam(GU)
Guatemala(GT)
Guinea(GN)
Guinea-Bissau(GW)
Guyana(GY)
Haiti(HT)
Heard and Mc Donald Islands(HM)
Honduras(HN)
Hong Kong(HK)
Hungary(HU)
Iceland(IS)
India(IN)
Indonesia(ID)
Iran(Islamic Republic of)(IR)
Iraq(IQ)

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Ireland(IE)
Israel(IL)
Italy(IT)
Jamaica(JM)
Japan(JP)
Jordan(JO)
Kazakhstan(KZ)
Kenya(KE)
Kiribati(KI)
Korea-Democratic People's Republic of(KP)
Korea-Republic of(KR)
Kuwait(KW)
Kyrgyzstan(KG)
Lao People's Democratic Republic(LA)
Latvia(LV)
Lebanon(LB)
Lesotho(LS)
Liberia(LR)
Libyan Arab Jamahiriya(LY)
Liechtenstein(LI)
Lithuania(LT)
Luxembourg(LU)
Macau(MO)
Macedonia-The Former Yugoslav Republic of(MK)
Madagascar(MG)
Malawi(MW)
Malaysia(MY)
Maldives(MV)
Mali(ML)
Malta(MT)
Marshall Islands(MH)
Martinique(MQ)
Mauritania(MR)
Mauritius(MU)
Mayotte(YT)

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Mexico(MX)
Micronesia(Federated States of)(FM)
Moldova-Republic of(MD)
Monaco(MC)
Mongolia(MN)
Montserrat(MS)
Morocco(MA)
Mozambique(MZ)
Myanmar(MM)
Namibia(NA)
Nauru(NR)
Nepal(NP)
Netherlands(NL)
Netherlands Antilles(AN)
New Caledonia(NC)
New Zealand(NZ)
Nicaragua(NI)
Niger(NE)
Nigeria(NG)
Niue(NU)
Norfolk Island(NF)
Northern Mariana Islands(MP)
Norway(NO)
Oman(OM)
Pakistan(PK)
Palau(PW)
Panama(PA)
Papua New Guinea(PG)
Paraguay(PY)
Peru(PE)
Philippines(PH)
Pitcairn(PN)
Poland(PL)
Portugal(PT)
Puerto Rico(PR)

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Qatar(QA)
Reunion(RE)
Romania(RO)
Russian Federation(RU)
Rwanda(RW)
St. Helena(SH)
Saint Kitts and Nevis(KN)
Saint Lucia(LC)
St. Pierre and Miquelon(PM)
Saint Vincent and the Grenadines(VC)
Samoa(WS)
San Marino(SM)
Sao Tome and Principe(ST)
Saudi Arabia(SA)
Senegal(SN)
Seychelles(SC)
Sierra Leone(SL)
Singapore(SG)
Slovakia(SK)
Slovenia(SI)
Solomon Islands(SB)
Somalia(SO)
South Africa(ZA)
South Georgia and the South Sandwich Islands(GS)
Spain(ES)
Sri Lanka(LK)
Sudan(SD)
Suriname(SR)
Svalbard and Jan Mayen Islands(SJ)
Swaziland(SZ)
Sweden(SE)
Switzerland(CH)
Syrian Arab Republic(SY)
Taiwan-Province of China(TW)
Tajikistan(TJ)

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Tanzania-United Republic of(TZ)
Thailand(TH)
Togo(TG)
Tokelau(TK)
Tonga(TO)
Trinidad and Tobago(TT)
Tunisia(TN)
Turkey(TR)
Turkmenistan(TM)
Turks and Caicos Islands(TC)
Tuvalu(TV)
Uganda(UG)
Ukraine(UA)
United Arab Emirates(AE)
United Kingdom(UK)
United States(US)
United States Minor Outlying Islands(UM)
Uruguay(UY)
Uzbekistan(UZ)
Vanuatu(VU)
Vatican City State (Holy See)(VA)
Venezuela(VE)
Vietnam(VN)
Virgin Islands (British)(VG)
Virgin Islands (U.S.)(VI)
Wallis and Futuna Islands(WF)
Western Sahara(EH)
Yemen(YE)
Yugoslavia(YU)
Zaire(ZR)
Zambia(ZW)
Zimbabwe(ZW)

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1.14 SMSC

Country	Operator	SMSC number
Albania	*AMC*	+355-3820
	Vodafone	+355 69 2000 200
Andorra	*??*	+376-301004
Australia	*One.Tel*	+61-411990001
	Vodafone	+61-415011501
	Telstra	+61-418706700
	Telstra	+61-418706800
	Telstra	+61-418706900
	Optus	+61-412025989
	Optus	+61-411990000
	Optus	+61-411990001
	Optus	+61-411990003
Austria	*A1*	+43-6640501
	Connect ONE	+43-6990001999
	Max-Mobil	+43-676021
	Tele.ring	+43-65009000000
Azerbaijan	*Azercell*	+994-509103300
	Bakcell	+994-557070707
Baharain	*Batelco*	+97392
	Batelco	+97394
	Batelco	+97396
	Batelco	+973973

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	Batelco	+97398
Bangladesh	*GrameenPhone*	+88017099999
	GrameenPhone	+88017500569
Belgium	*Mobistar*	+32-95955205
	Mobistar	+32-495002530
	Proximus	+32-475161616
	Orange	+32-486000005
Bosnia and Herzegovina	*PTT GSM BIH*	+387-66125522
Botswana	*Mascom Wireless*	+267-71010024
	Vista Cellular	+267-72000003
Brunei	*Darussalam*	+673879500
Bulgaria	*MobilTel*	+35988000301
Canada	*Fido Canada*	+1-5149931123
Chile	*Entel PCS*	+56-98890005
China	*Telecom China*	+86-1390591500
	Telecom China	+86-13800100500

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Croatia	*Cronet*	+385-980501
	VIPNET	+385-910401
Cyprus	*Cytamobile*	+35799700000
Czech Republic	*Eurotel*	+420-602909909
	Radiomobil	+420-603051
Denmark	*Sonofon*	+45-40590000
	TeleDanmark	+45-40390999
	Telia	+45-28187000
	Mobilix	+45-26265151
	Free!	+45 40590006
Egypt	*Click GSM*	+20105996500
	Mobinil	+20122000020
Estonia	*EMT*	+372-5099000
	Ritabell	+372-5509911
	Radiolinja	+372-568771010
Fiji	*??*	+679901400
Finland	*Radiolinja*	+358-508771010
	Sonera	+358-405202000

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France	*SFR*	+33-609001390
	Bouygues	+33-660003000
	Itineris	+33-689004000
	Itineris	+33-689004431
	Itineris	+33-68900458
Germany	*D1*	+49-1710760000
	D1	+49-1715990000
	D1 Talkline	+49-1710760900
	D2	+49-172227033
	D2	+49-1722270000
	D2	+49-1722270333
	D2 Talkline	+49-1722270258
	Debitel	+49-1722270222
	IC3S	+49-1722270201
	Dr Materna	+49-1722270111
	E2 VIAG	+49-1760000443
	E-Plus	+49-1770600000
	E-Plus	+49-1770610000
	E-Plus	+49-1770620000
Greece	*Panafon*	+30-94219000
	Telestet	+30-93599000
	Telestet	+30-93597000
	Cosmote	+30-97100000
Holland	*Libertel/Vodafone*	+31-6540881000
	KPN Telecom	+31-653131313
	Telfort	+31-626000230
	BEN	+31-624000000
	Dutchtone	+31628500561

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	TELE-2	+31640191919
	KPN Telecom (Hi! PrePaid)	+31-6-53131314
Hong Kong	*Hutchinson*	+852-94985795
	HK Telecom	+852-90288000
	Smartone	+852-90100000
Hungary	*Pannon*	+36-209300099
	Westel900	+36-30-9888-000
	Vodafone	+36709996500
Iceland	*Landssimi Islands hf*	+354-8900100
	Tal	+354-6999099
India	*BPL Mobile*	+91-9821000005
	MAXtouch	+91-9820005446
	Essar Cellphone	+91-9811009998
	Tata	+919848001104
	Command	+919830099990
	AirTel Delhi	+91-98100-51914
	Skycell Cellular	+919840011003
	Spice Karnataka	+919844198441
	Spicell	+919831029222
	Usha Martin Telekom ltd	+919830099990
Indonesia	*Satelindo*	+62-81615
	Satelindo	+62 816 124
	Satelindo	+62 816 125

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	Satelindo	+62 816 126
	Satelindo	+62 816 127
	Satelindo	+62 816 128
	Telkomsel	+62-81100000
	Exelcomindo	+62-818445009
Ireland	*Eircell*	+35387699989
	Esat	+353-868002000
	Meteor	+353-857000000
Isle of Man	*Pronto GSM*	+447624499955
Israel	*Orange*	+972-54-120032
Italy	*Omni*	+39-3492000200
	Omni	+39-3492000300
	Omni	+39-3492000400
	Omni	+39-3492000500
	TIM	+39-3359609600
	TIM	+39-3359608000
	TIM	+39-338960960
	TIM	+39-338980000
	Wind	+39-3205858500
Kenya	*Safaricom*	+25472500010
	Kencell	+254733000810
Kuwait	*MTC*	+96596000303
	Al-Wataniya	+9656373717

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Kyrgyzstan	*Bitel GSM*	+996 502 58 88 00
Latvia	*LMT*	+371-9202020
	Baltcom GSM	+371 9599994
Lebanon	*FTML Cellis*	+61-3488888
Lithuania	*Bite GSM*	+370-9950115
	Omnitel	+370-9899992
Luxembourg	*PTT*	+352-021100003
	Tango	+352-091000030
Macau	*CTM*	+85366
	CTM	+85368
Macedonia	*MobiMak*	+389 70 000501
Malaysia	*ADAM*	+60-173600010
	Celcom	+60-193900000
	Mutiara	+60-162999000
	Maxis	+60-120000015
Malta	*Vodafone*	+356-941816

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	goMobile	+35679700003
Mauritius	*EMTEL*	+230 7290999
	cellplus	+230 2500005
Mongolia	*MobiCom*	+97699000030
Montenegro	*Pro monte*	+38169200000
	Monet	+38167100100
Morocco	*Maroc Telecom*	+212 61 00 00 21
	Maroc Telecom	+212 61 00 00 22
	Maroc Telecom	+212 61 00 00 23
	Meditel	+2123992000
Namibia	*MTC*	+26481
New Zealand	*Vodafone*	+64-21600600
Norway	*NetCom*	+47-92001000
	NetCom	+47-9208977
	TeleNor	+47-90002100
	TeleNor	+47-90007777
	Sense Mobil	+47 90002100
Pakistan	*Mobilink*	+92300000042

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Peru	*Claro*	+51197990000
	Movistar	+51195599000
Philippines	*Globe*	+63-91702
	Globe	+63-91703
	Globe	+63-91704
	Globe	+63-91709
	Islacom	+63-9150200003
	Smart	+63-9180000101
Poland	*Era GSM*	+48-602951111
	Era GSM	+48-602951112
	Polkomtel	+48-601000310
	Polkomtel	+48-601000311
	IDEA Centertel	+48-501200777
Portugal	*Telecel*	+351-911616161
	TMN	+351-936210000
	OPTIMUS	+35193121314
Qatar	*QATARNET*	+974 5589955
Reunion	*Reunion*	+33609001390
Romania	*Connex*	+40-92004000
	Dialog	+40-94946000

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Russia	*North West Russia*	+7-8129600096
	MTS	+7-0957699100
	BeeLine	+7-90173100
Rwanda	*??*	+25008110333
Saudiarabia	*Sauditel*	+966 5 503 1999
Serbia	*MobTel*	+38163100100
	MobTel	+38163100200
	MobTel	+38163100300
	MobTel	+38163100400
	MobTel	+38163100300
	PTT Telekom	+381-650000900
	PTT Telekom	+381-640000900
Seychelles	*Airtel*	+248700000
Singapore	*Mobile One*	+65-96845999
	Mobile One	+65-96845997
	SingTel	+65-96400001
	SingTel	+65-96500001
	SingTel	+65-98189999
	SingTel	+65-96197777
	Starhub	+6598540020
Slovakia	*Eurotel*	+421-903333000
	Globtel	+421-905303303
	Si.Mobil	+386-40441000

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Slovenia	*Mobitel*	+386-41001333
South Africa	*MTN*	+27-831000002
	MTN (Prepaid)	+27-831000113
	Vodacom	+27-829119
	Vodacom	+27-829129
Spain	*Telefonica MoviStar*	+34-609090909
	Vodafone (Airtel)	+34-607003110
	Amena	+34-656000311
Sweden	*Comviq*	+46-707990001
	Comviq	+46-707990002
	Comviq	+46-707990003
	Comviq	+46-707773078
	Europolitan	+46-708000708
	Telia	+46-705008999
Switzerland	*Swisscom*	+41-794999000
	diAX	+41-765980000
	Orange	+41-787777070
Taiwan	*Chung Wa Tele*	+886-932400821
Tanzania	*Tritel*	+255812904000

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Thailand	*AIS Thailand*	+66-18110888
	WP1800	+66-16110400
Turkey	*Turkcell*	+90-5329010000
	Turkcell	+90-5329020000
	Turkcell	+905329030000
	Turkcell	+90-5329040000
	Telsim	+90-5429800033
Ukraine	*UMC*	+38050000501
	Kyivstar	+380672021111
	Golden Telecom	+380444990000
	Wellcome	+38044 251 7777
United Arab Emirates	*UAE Etisalat*	+97150 6060000
United Kingdom	*Isle of Man Pronto GSM*	+447624499955
	Vodafone	+44-7785016005
	CellNet	+44-7802000332
	Virgin Mobile	+447958879890
	Orange	+44-7973100973
	Orange	+44-7973100974
	One2One	+44-7958879879
	Guernsey Telecoms	+44-4481/7781
	Jersey	+44-7781
USA	*Aerial Comms*	+1-8132630025
	Aerial Comms	+1-2812350025

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	VoiceStream	+1-2063130004
	Pacific Bell	+1-2099042010
	Pacific Bell	+1-2099042020
	Pacific Bell	+1-2099042030
	Powertel	+1-3343338200
	DigiPH PCS	+1-3342090307
	Omnipoint	+1-9179070004
	Sprint	+1-7044100000
	Washington PCS	+1-410258953
Venezuela	*Digitel*	+58-12-8000000
Vietnam	*Mobilfone*	+84 90700000
	Vinaphone	+84 91020005
	Vinaphone	+84 91020010
Yugolsavia	*MobTel*	+381-63-100400
	MobTel	+381-63100300
	MobTel	+381-63100200
	MobTel	+381-63100100
	MobTel	+381-6310030034
	MobTel	+381-6310040034
	PTT Telekom Serbia	+381-650000900
Zimbabwe	*Econet Wireless*	+263-91010030
	*Net*One*	+26311191201

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